

1. What are the characteristics of software?

- a. Software is developed or engineered; it is not manufactured in the classical sense.
- b. Software doesn't "wear out".
- c. Software can be custom built or custom build.
- d. All mentioned above

ANSWER: All mentioned above

2. Compilers, Editors software come under which type of software?

- a. System software
- b. Application software
- c. Scientific software
- d. None of the above.

ANSWER: System software

3. Software Engineering is defined as systematic, disciplined and quantifiable approach for the development, operation and maintenance of software.

- a. True
- b. False

ANSWER: True

4. RAD Software process model stands for _____ .

- a. Rapid Application Development.
- b. Relative Application Development.
- c. Rapid Application Design.
- d. Recent Application Development.

ANSWER: Rapid Application Development.

5. Software project management comprises of a number of activities, which contains _____.

- a. Project planning
- b. Scope management
- c. Project estimation
- d. All mentioned above

ANSWER: All mentioned above

6. COCOMO stands for _____ .

- a. COnsumed COst MOdel
- b. COnstructive COSt MOdel
- c. CCommon COntrol MOdel
- d. COMposition COSt MOdel

ANSWER: COnstructive COSt MOdel

7. Which of the following is not defined in a good Software Requirement Specification (SRS) document?

- a. Functional Requirement.
- b. Nonfunctional Requirement.
- c. Goals of implementation.
- d. Algorithm for software implementation.

ANSWER: Algorithm for software implementation.

8. What is the simplest model of software development paradigm?

- a. Spiral model
- b. Big Bang model
- c. V-model
- d. Waterfall model

ANSWER: Waterfall model

9. Which of the following is the understanding of software product limitations, learning system related problems or changes to be done in existing systems beforehand, identifying and addressing the impact of project on organization and personnel etc?

- a. Software Design
- b. Feasibility Study
- c. Requirement Gathering
- d. System Analysis

ANSWER: System Analysis

10. Which design identifies the software as a system with many components interacting with each other?

- a. Architectural design
- b. High-level design
- c. Detailed design
- d. Both B & C

ANSWER: Architectural design

11. Software consists of _____ .

- a. Set of instructions + operating procedures
- b. Programs + documentation + operating procedures
- c. Programs + hardware manuals
- d. Set of programs

ANSWER: Programs + documentation + operating procedures

12. Which is the most important feature of spiral model?

- a. Quality management
- b. Risk management
- c. Performance management
- d. Efficiency management

ANSWER: Risk management

13. If every requirement stated in the Software Requirement Specification (SRS) has only one interpretation, SRS is said to be correct _____ .

- a. Unambiguous
- b. Consistent
- c. Verifiable
- d. None of the above

ANSWER: Unambiguous

14. Which is not a step of Requirement Engineering?

- a. Requirements elicitation
- b. Requirements analysis
- c. Requirements design
- d. Requirements documentation

ANSWER: Requirements design

15. FAST stands for _____ .

- a. Functional Application Specification Technique
- b. Fast Application Specification Technique
- c. Facilitated Application Specification Technique
- d. None of the above

ANSWER: Facilitated Application Specification Technique

16. The level at which the software uses scarce resources is _____ .

- a. Reliability
- b. Efficiency
- c. Portability
- d. All of the above

ANSWER: Efficiency

17. Modifying the software to match changes in the ever changing environment is called _____ .

- a. Adaptive maintenance
- b. Corrective maintenance
- c. Perfective maintenance
- d. Preventive maintenance

ANSWER: Adaptive maintenance

18. If every requirement can be checked by a cost-effective process, then the SRS is _____ .

- a. Verifiable
- b. Traceable
- c. Modifiable
- d. Complete

ANSWER: Verifiable

19. Aggregation represents _____ .

- a. is_a relationship
- b. part_of relationship
- c. composed_of relationship
- d. none of above

ANSWER: composed_of relationship

20. If P is risk probability, L is loss, then Risk Exposure (RE) is computed as_____ .

- a. $RE = P/L$
- b. $RE = P + L$
- c. $RE = P*L$
- d. $RE = 2^* P *L$

ANSWER: $RE = P*L$

21) Number of clauses used in ISO 9001 to specify quality system requirements are _____ .

- a. 15
- b. 20
- c. 25
- d. 28

ANSWER: 20

22) ER model shows the _____ .

- a. Static view
- b. Functional view
- c. Dynamic view
- d. All the above

ANSWER: Static view

23) IEEE 830-1993 is a IEEE recommended standard for _____ .

- a. Software Requirement Specification
- b. Software design

- c. Testing
- d. Both (A) and (B)

ANSWER: Software Requirement Specification

24) One of the fault base testing techniques is _____ .

- a. Unit Testing
- b. Beta Testing
- c. Stress Testing
- d. Mutation Testing

ANSWER: Mutation Testing

25) If the objects focus on the problem domain, then we are concerned with _____.

- a. Object Oriented Analysis
- b. Object Oriented Design
- c. Object Oriented Analysis and Design
- d. None of the above

ANSWER: Object Oriented Analysis

26) In a risk-based approach the risks identified may be used to:

- i. Determine the test technique to be employed
 - ii. Determine the extent of testing to be carried out
 - iii. Prioritize testing in an attempt to find critical defects as early as possible.
 - iv. Determine the cost of the project
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- a. ii is True; i, iii, iv and v are False
 - b. i,ii,iii are true and iv is false
 - c. ii and iii are True; i, iv are False
 - d. ii, iii and iv are True; i is false

ANSWER: i,ii,iii are true and iv is false

27) Which of the following is not a part of the Test Implementation and Execution Phase?

- a. Creating test suites from the test cases
- b. Executing test cases either manually or by using test execution tools
- c. Comparing actual results
- d. Designing the Tests

ANSWER: Designing the Tests

28) The Test Cases Derived from use cases _____ .

- a. Are most useful in uncovering defects in the process flows during real world use of the system.
- b. Are most useful in uncovering defects in the process flows during the testing use of the system.
- c. Are most useful in covering the defects in the process flows during real world use of the system.
- d. Are most useful in covering the defects at the Integration Level.

ANSWER: Are most useful in uncovering defects in the process flows during real world use of the system.

29) What can static analysis NOT find?

- a. The use of a variable before it has been defined.
- b. Unreachable ("dead") code.
- c. Memory leaks.
- d. Array bound violations.

ANSWER: Memory leaks.

30) Which plan describes how the skills and experience of the project team members will be developed ?

- a. HR Plan
- b. Manager Plan
- c. Team Plan
- d. Staff Development Plan

ANSWER: Staff Development Plan

31) Alpha and Beta Testing are forms of _____ .

- a. Acceptance testing
- b. Integration testing
- c. System Testing
- d. Unit testing

ANSWER: Acceptance testing

32) The model in which the requirements are implemented by its category is _____ .

- a. Evolutionary Development Model
- b. Waterfall Model
- c. Prototyping
- d. Iterative Enhancement Model

ANSWER: Evolutionary Development Model

33) A COCOMO model is _____ .

- a. Common Cost Estimation Model.
- b. Constructive Cost Estimation Model.
- c. Complete Cost Estimation Model.
- d. Comprehensive Cost Estimation Model

ANSWER: Constructive Cost Estimation Model.

34) SRD stands for _____ .

- a. Software Requirements Definition
- b. Structured Requirements Definition

- c. Software Requirements Diagram
- d. Structured Requirements Diagram

ANSWER: Structured Requirements Definition

35) The tools that support different stages of software development life cycle are called _____ .

- a. CASE Tools
- b. CAME tools
- c. CAQE tools
- d. CARE tools

ANSWER: CASE Tools

36) Which defect amplification model is used to illustrate the generation and detection of errors during the preliminary steps of a software engineering process?

- a. Design
- b. Detailed design
- c. Coding
- d. All mentioned above

ANSWER: All mentioned above

37) Which method is used for evaluating the expression that passes the function as an argument?

- a. Strict evaluation
- b. Recursion
- c. Calculus
- d. Pure functions

ANSWER: Strict evaluation

38) Which factors affect the probable consequences if a risk occur?

- a. Risk avoidance
- b. Risk monitoring
- c. Risk timing
- d. Contingency planning

ANSWER: Risk timing

39) Staff turnover, poor communication with the customer are risks that are extrapolated from past experience are called _____ .

- a. Business risks
- b. Predictable risks
- c. Project risks
- d. Technical risks

ANSWER: Predictable risks

40) Organization can have in-house inspection, direct involvement of users and release of beta version are few of them and it also includes usability, compatibility, user acceptance etc. is called

- a. Task analysis
- b. GUI requirement gathering
- c. GUI design & implementation
- d. Testing

ANSWER: Testing

41) Which project is undertaken as a consequence of a specific customer request?

- a. Concept development projects
- b. Application enhancement projects
- c. New application development projects
- d. Application maintenance projects

ANSWER: New application development projects

42) Requirement engineering process includes which of these steps?

- a. Feasibility study
- b. Requirement Gathering
- c. Software Requirement specification & Validation
- d. All mentioned above

ANSWER: All mentioned above

43) Software safety is a quality assurance activity that focuses on hazards that may cause an entire system to fall.

- a. True
- b. False

ANSWER: True

44) Give the disadvantages of modularization.

- a. Smaller components are easier to maintain
- b. Program can be divided based on functional aspects
- c. Desired level of abstraction can be brought in the program
- d. None of the above

ANSWER: None of the above

45) Effective software project management focuses on the four P's. What are those four P's?

- a. People, performance, payment, product
- b. People, product, process, project
- c. People, product, performance, project
- d. All of the above.

ANSWER: People, product, process, project

46) Give the Real-world factors affecting maintenance Cost.

- a. As technology advances, it becomes costly to maintain old software.
- b. The standard age of any software is considered up to 10 to 15 years.
- c. Most maintenance engineers are newbie and use trial and error method to rectify problem.
- d. All mentioned above

ANSWER: All mentioned above

47) Mention any two indirect measures of product.

- a. Quality
- b. Efficiency
- c. Accuracy
- d. Both A and B
- e. Both B and C

ANSWER: Both A and B

48) Which testing is the re-execution of some subset of tests that have already been conducted to ensure the changes that are not propagated?

- a. Unit testing
- b. Regression testing
- c. Integration testing
- d. Thread-based testing

ANSWER: Regression testing

49) State if the following are true for Project Management.

During Project Scope management, it is necessary to –

- 1) Define the scope
- 2) Decide its verification and control
- 3) Divide the project into various smaller parts for ease of management.
- 4) Verify the scope

- a. True
- b. False

ANSWER: True

50) Software Requirement Specification (SRS) is also known as specification of _____.

- a. White box testing
- b. Acceptance testing
- c. Integrated testing
- d. Black box testing

ANSWER: Black box testing

1) Which of the following is/are considered stakeholder in the software process?

- a. Customers
- b. End-users
- c. Project managers
- d. All of the above.

ANSWER: All of the above.

2) Software components provide interfaces, which can be used to establish communication among different components.

- a. Yes
- b. No

ANSWER: Yes

3) Which SDLC activity does the user initiates the request for a desired software product?

- a. Requirement gathering
- b. Implementation
- c. Disposition
- d. Communication

ANSWER: Communication

4) In Risk management process what makes a note of all possible risks, that may occur in the project?

- a. Manage
- b. Monitor
- c. Categorize
- d. Identification

ANSWER: Identification

5) What is a measure of how well a computer system facilities learning?

- a. Usability
- b. Functionality
- c. Reliability
- d. None of the above

ANSWER: Usability

6) The process togather the software requirements from Client, Analyze and Document is known as _____ .

- a. Requirement engineering process
- b. Requirement elicitation process

- c. User interface requirements
- d. Software system analyst

ANSWER: Requirement engineering process

7) Refinement is actually a process of elaboration.

- a. True
- b. False

ANSWER: True

8) Who manages the effects of change throughout the software process?

- a. Software project tracking and control
- b. Software configuration management
- c. Measurement
- d. Technical reviews

ANSWER: Software configuration management

9) When elements of module are grouped together that are executed sequentially in order to perform a task, is called _____ .

- a. Procedural cohesion
- b. Logical cohesion
- c. Emporal cohesion
- d. Co-incidental cohesion

ANSWER: Procedural cohesion

10) Which coupling is also known as “Global coupling”?

- a. Content coupling
- b. Stamp coupling
- c. Data coupling
- d. Common coupling

ANSWER: Common coupling

11) What is the detailed sequence of steps that describes the interaction between the user and the application?

- a. Scenario scripts
- b. Support classes
- c. Key classes
- d. Subsystems

ANSWER: Scenario scripts

12) Which risks identify Potential Design, Implementation, Interface, Verification and Maintenance Problems?

- a. Project risk
- b. Business risk
- c. Technical risk
- d. Schedule risk

ANSWER: Technical risk

13) Abbreviate the term BSS.

- a. Box Structure Specification
- b. Box Statistical Specification
- c. Box Statistical System
- d. Box Structure Sampling

ANSWER: Box Structure Specification

14) What is the testing to ensure the WebApp properly interfaces with other applications or databases?

- a. Compatibility
- b. Interoperability
- c. Performance
- d. Security

ANSWER: Interoperability

15) Which Variation control in the context of software engineering involves controlling variation?

- a. Process applied
- b. Resources expended
- c. Product quality attributes
- d. All mentioned above

ANSWER: All mentioned above

16) Which classes represent data stores (e.g., a database) that will persist beyond the execution of the software?

- a. Process classes
- b. System classes
- c. Persistent classes
- d. User interface classes

ANSWER: Persistent classes

17) Abbreviate the term CMMI.

- a. Capability Maturity Model Integration
- b. Capability Model Maturity Integration
- c. Capability Maturity Model Instructions
- d. Capability Model Maturity Instructions

ANSWER: Capability Maturity Model Integration

18) First level of prototype is evaluated by _____ .

- a. Developer
- b. Tester
- c. User
- d. System Analyst

ANSWER: User

19) Which of the items listed below is not one of the software engineering layers?

- a. Process
- b. Manufacturing
- c. Methods
- d. Tools

ANSWER: Manufacturing

20) Line of code(LOC) of the product comes under which type of measures?

- a. Indirect measures
- b. Direct measures
- c. Coding
- d. None of the above.

ANSWER: Direct measures

21) What is the main aim of Software engineering?

- a. Reliable software
- b. Cost effective software
- c. Reliable and cost effective software
- d. None of the above

ANSWER: Reliable and cost effective software

22) Choose the correct option according to the given statement.

Statement 1: Software is a physical rather than a logical system element.

Statement 2: Computer software is the product that software engineers design and build.

Statement 3: Software is a logical rather than a physical system element.

Statement 4: Software is a set of application programs that are built by software engineers.

- a. Statement 1 and 2 are correct.
- b. Only Statement 2 and 3 are correct.
- c. Statement 2 and 3 and 4 are correct.
- d. All statements are correct

ANSWER: Statement 2 and 3 and 4 are correct.

23) You are working in CareerRide as a project manager. What will you do to minimize the risk of software failure?

- a. Request a large budget
- b. You will increase the team size
- c. Track progress
- d. None of the above.

ANSWER: Track progress

24) Constantine suggests four “organizational paradigms” for software engineering teams. The best project team organizational model to use when handling extremely complex problems is

- a. Random paradigm
- b. Open paradigm
- c. Synchronous paradigm
- d. Closed paradigm

ANSWER: Random paradigm

25) For the best Software model suitable for the project, in which of the phase the developers decide a roadmap for project plan?

- a. Software Design
- b. System Analysis
- c. Coding
- d. Testing

ANSWER: System Analysis

1) Which of these software characteristics are used to determine the scope of a software project?

- a. Only performance.
- b. Only context.
- c. Information objectives, function, performance
- d. None of the above.

ANSWER: Information objectives, function, performance

2) Which level of sub-system is used of an application?

- a. Application level
- b. Component level
- c. Modules level
- d. None of the above

ANSWER: Component level

3) SDLC is not a well-defined, structured sequence of stages in software engineering to develop the intended software product.

- a. True
- b. False

ANSWER: False

4) In the Empirical Estimation Technique which model is developed by Barry W. Boehm?

- a. Putnam model
- b. COCOMO
- c. Both A & B
- d. None of the above

ANSWER: COCOMO

5) From the following select the correct option that is used to display the available option for selection.

- a. Check-box
- b. Text-box
- c. Button
- d. Radio-Button

ANSWER: Radio-Button

6) CMM model in Software Engineering is a technique of _____ .

- a. Develop the software.
- b. Improve the software process.
- c. Improve the testing process.
- d. All of the above.

ANSWER: Improve the software process.

7) Transformers is one of the broad category used to classify operations.

- a. True
- b. False

ANSWER: False

8) The tools that support different stages of software development life cycle are called as _____ .

- a. CASE Tools
- b. CAME tools
- c. CAQE tools
- d. CARE tools

ANSWER: CASE Tools

9) Which is not a step of Requirement Engineering?

- a. Requirements elicitation
- b. Requirements analysis
- c. Requirements design
- d. Requirements documentation

ANSWER: Requirements design

10) Which of the level carries out goal, objective, work tasks, work products and other activities of the software process?

- a. Performed
- b. INCOMPLETE
- c. Optimized
- d. Quantitatively Managed

ANSWER: Performed

11) If you have no clue of how to improve the process for the quality software which model is used?

- a. A Continuous model
- b. A Staged model
- c. Both A & B
- d. None of the above

ANSWER: A Staged model

12) In Software validation, requirements can be checked against following conditions:

- 1) If they can be practically implemented
- 2) If they are valid and as per functionality and domain of software
- 3) If there are any ambiguities
- 4) If they are completed

- a. True
- b. False

ANSWER: True

13) In OOD, the attributes(data variables) and methods(operation on the data) are bundled together is called _____ .

- a. Classes
- b. Objects
- c. Encapsulation
- d. Inheritance

ANSWER: Encapsulation

14) Which design defines the logical structure of each module and their interfaces that is used to communicate with other modules?

- a. High-level designs
- b. Architectural designs
- c. Detailed design
- d. All mentioned above

ANSWER: Detailed design

15) Which tools are used in Implementation, Testing and Maintenance?

- a. Upper case tools
- b. Lower case tools
- c. Integrated case tools
- d. None of the above

ANSWER: Lower case tools

16) Which tools are used for project planning, cost, effort estimation, project scheduling and resource planning?

- a. Process modeling tools
- b. Project management tools
- c. Diagram tools
- d. Documentation tools

ANSWER: Project management tools

17) Which design deals with the implementation part in which it shows a system and its subsystems in the previous two designs?

- a. Architectural design
- b. High-level design
- c. Detailed design
- d. Both A & B

ANSWER: Detailed design

18) Modularization is a technique to divide a software system into multiple discrete and independent modules.

- a. True
- b. False

ANSWER: True

19) What is the project and process level that provides the Quality Metric benefit?

- a. Defect amplification
- b. Defect removal efficiency
- c. Measuring quality
- d. All mentioned above

ANSWER: Defect removal efficiency

20) Cohesion metrics and coupling metrics are metrics in which level of design?

- a. User interface design
- b. Pattern-based design
- c. Architectural design
- d. Component-level design

ANSWER: Component-level design

21) Which condition defines the circumstances for a particular operation is valid?

- a. Postcondition
- b. Precondition
- c. Invariant
- d. None of the above

ANSWER: Precondition

22) Which subsystem implements a repository that encompasses the following elements,

- 1) Content database**
- 2) Database capabilities**
- 3) Configuration management functions**

- a. The publishing subsystem
- b. The management subsystem
- c. The collection subsystem
- d. None of the above

ANSWER: The management subsystem

23) Which is not a SQA activity?

- a. Black box testing
- b. White box testing
- c. Integration testing
- d. Unit testing

ANSWER: White box testing

24) PAD is metric indicates the number of classes that can access another class attributes and a violation of encapsulation.

- a. True
- b. False

ANSWER: True

25) Find out which phase is not available in SDLC?

- a. Coding
- b. Testing

- c. Maintenance
- d. Abstraction

ANSWER: Abstraction

1) From the following, which software has been characterized by 'Number Crunching' Algorithms?

- a. System software
- b. Artificial intelligence software
- c. Embedded software
- d. Engineering and scientific software

ANSWER: Engineering and scientific software

2) IEEE provides a standard as IEEE 830-1993. For which activity this standard is recommended standard?

- a. Software requirement specification.
- b. Software design.
- c. Testing.
- d. Both a and b

ANSWER: Software requirement specification.

3) A generic process framework for software engineering encompasses five activities. What are those activities?

- a. Communication, risk management, measurement, production, deployment.
- b. Communication, Planning, Modeling, construction, deployment.
- c. Analysis, designing, programming, debugging, maintenance
- d. None of the above.

ANSWER: Communication, Planning, Modeling, construction, deployment.

4) Who deliver the technical skills that are necessary to engineer for a product or an application?

- a. Project managers
- b. Practitioners
- c. Customers
- d. End users

ANSWER: Practitioners

5) Project risk factor is considered in which model?

- a. Spiral model.
- b. Waterfall model.
- c. Prototyping model
- d. None of the above.

ANSWER: Spiral model.

6) What is a child window that contains message for the user and request for some action to be taken?

- a. Dialogue box
- b. Text-Box
- c. Check-Box
- d. Radio Button

ANSWER: Dialogue box

7) A Project can be characterized as _____ .

- a. Every project may not have a unique and distinct goal.
- b. Project is routine activity or day-to-day operations.
- c. Project does not comes with a start time and end time.
- d. All mentioned above.
- e. None of the above.

ANSWER: None of the above.

8) Which model is not suitable for large software projects but good one for learning and experimenting?

- a. Big Bang model
- b. Spiral model
- c. Iterative model
- d. Waterfall model

ANSWER: Big Bang model

9) Which includes modifications and updations done in order to correct or fix the problems, that are either discovered by user or concluded by user error reports?

- a. Perfective maintenance
- b. Adaptive maintenance
- c. Corrective maintenance
- d. Preventive maintenance

ANSWER: Corrective maintenance

10) Boehm suggests an approach that addresses project objectives, milestones and schedules, responsibilities, management and technical approaches and required resources, This principle is called as _____ .

- a. W3HH principle
- b. WHO principle
- c. W5HH principle
- d. None of the above.

ANSWER: W5HH principle

11) The objective for formal technical review is to core errors in software work products.

- a. True
- b. False

ANSWER: False

12) CASE tools are set of automated software application programs, that are not used to support, accelerate and smoothen the SDLC activities.

- a. Yes
- b. No

ANSWER: No

13) From the following give three major categories of risk,

- 1) Schedule risk
- 2) Project risk
- 3) Technical risk
- 4) Business risk

- a. 1,2 and 3
- b. 2,3 and 4
- c. 1,2 and 4
- d. 1,3 and 4

ANSWER: 2,3 and 4

14) Activities and action taken on the data are represented by circle or round-edged rectangles is called _____ .

- a. Entities
- b. Process
- c. Data storage
- d. Data flow

ANSWER: Process

15) The six sigma for software engineering what gives the existing process and its output to determine the current quality performance?

- a. Define
- b. Analyze
- c. Measure
- d. None of the above

ANSWER: Measure

16) Which tools are helpful in all the stages of SDLC, for requirement gathering to testing and documentation?

- a. Upper case tools
- b. Lower case tools
- c. Integrated case tools
- d. None of the above

ANSWER: Integrated case tools

17) OOD languages provide a mechanism where methods performing similar tasks but vary in arguments, and that can be assigned to the same name is called _____ .

- a. Classes
- b. Object
- c. Polymorphism
- d. Encapsulation

ANSWER: Polymorphism

18) Abbreviate the term SMI.

- a. Software Maturity Index
- b. Software Model Instruction
- c. Software Maturity Instruction
- d. Software Model Index

ANSWER: Software Maturity Index

19) What computer-based system can have a profound effect on the design that is chosen and also the implementation approach will be applied?

- a. Scenario-based elements
- b. Class-based elements
- c. Behavioural elements
- d. Flow-oriented elements

ANSWER: Behavioural elements

20) SRS is a document created by system analyst after the requirements are collected from various stakeholders.

- a. Yes
- b. No

ANSWER: Yes

21) Which structures in Organizational Paradigms on a team loosely and depends on individual initiative of the team members?

- a. Closed paradigm
- b. Open paradigm
- c. Random paradigm
- d. Synchronous paradigm

ANSWER: Random paradigm

22) Give the name to diagram that represents the flow of activities described by the use cases and at the same time the captors are involved in UML .

- a. State diagram
- b. Swim lane diagram
- c. Activity diagram
- d. Component diagram

ANSWER: Swim lane diagram

23) Which phase is refers to the support phase of software development?

- a. Acceptance Phase.
- b. Testing.
- c. Maintenance.
- d. None of the above.

ANSWER: Maintenance.

24) Which model is also called as the classic life cycle or the Waterfall model?

- a. Iterative Development
- b. Linear Sequential Development
- c. RAD Model.
- d. Incremental Development

ANSWER: Linear Sequential Development

25) What is the average effective global activity rate in an evolving E-type system is invariant over the lifetime of the product?

- a. Self-regulation
- b. Reducing quality
- c. Feedback systems
- d. Organizational stability

ANSWER: Organizational stability

1) Which document is created by system analyst after the requirements are collected from Various stakeholders?

- a. Software requirement specification
- b. Software requirement validation
- c. Feasibility study
- d. Requirement Gathering

ANSWER: Software requirement specification

2) Which is focused towards the goal of the organization?

- a. Feasibility study
- b. Requirement gathering
- c. Software requirement specification
- d. Software requirement validation

ANSWER: Feasibility study

3) The architectural model is derived from which of these sources?

- A) Information about the application domain for the software to be built;
 - B) Specific requirements model elements such as data flow diagrams or analysis classes, their relationships and collaborations for the problem at hand;
 - C) The availability of architectural styles and patterns.
-
- a. Both A & B
 - b. Both B & C
 - c. Both A & C
 - d. All mentioned above

ANSWER: All mentioned above

4) What is the correctness, completeness, and consistency of the requirements model will have a strong influence on the quality of all work products that follow?

- a. Requirement quality
- b. Design quality
- c. Code quality
- d. Quality control effectiveness

ANSWER: Requirement quality

5) An entity in ER Model is a real world being, which has some properties called_____ .

- a. Attributes
- b. Relationship
- c. Domain
- d. None of the above

ANSWER: Attributes

6) Waht is the most common measure for correctness?

- a. Defects per KLOC
- b. Errors per KLOC
- c. \$ per KLOC
- d. Pages of documentation per KLOC

ANSWER: Defects per KLOC

7) Which documentation works as a key tool for software designer, developer and their test team is to carry out their respective tasks?

- a. Requirement documentation
- b. User documentation
- c. Software design documentation
- d. Technical documentation

ANSWER: Requirement documentation

8) Which tools are used in implementation, testing and maintenance?

- a. Upper case tools
- b. Integrated case tools
- c. Lower case tools
- d. None of the above

ANSWER: Lower case tools

9) Which risk gives the degree of uncertainty and the project schedule will be maintained so that the product will be delivered in time?

- a. Business risk
- b. Technical risk
- c. Schedule risk
- d. Project risk

ANSWER: Schedule risk

10) You are working in CareerRide as a project manager. Company wants to develop a project. You are also involved in planning team. What will be your first step in project planning?

- a. Establish the objectives and scope of the product.
- b. Determine the project constraints.
- c. Select the team.
- d. None of the above.

ANSWER: Establish the objectives and scope of the product.

11) Configuration management is an essential part of the system maintenance. It is aided with version control tools to control versions, semi-version or patch management.

- a. True
- b. False

ANSWER: True

12) Which model is also known as Verification and validation model?

- a. Waterfall model
- b. Big Bang model
- c. V-model
- d. Spiral model

ANSWER: V-model

13) Software project management is the process of managing all activities that are involved in software development, they are _____ .

- a. Time
- b. Cost
- c. Quality management
- d. All mentioned above

ANSWER: All mentioned above

14) A small picture representing an associated application, what does it mean?

- a. Icon
- b. Window
- c. Menu
- d. Cursor

ANSWER: Icon

15) What is the meaning of requirement elicitation in software engineering?

- a. Gathering of requirement.
- b. Understanding of requirement.
- c. Getting the requirements from client.
- d. All of the above.

ANSWER: All of the above.

16) Which of the following is/are Project Estimation Technique?

- a. Empirical Estimation Technique.
- b. Heuristic Estimation Technique.
- c. Analytical Estimation Technique.
- d. All of the above.

ANSWER: All of the above.

17) The maximum number of objects that can participate in a relationship is called_____ .

- a. Cardinality
- b. Attributes
- c. Operations
- d. Transformers

ANSWER: Cardinality

18) What is legacy system?

- a. A legacy system refers to newer version of software.
- b. A legacy system refers to outdated application software that is used instead of available upgraded versions.
- c. A legacy system always devolved by advance technology.
- d. None of the above.

ANSWER: A legacy system refers to outdated application software that is used instead of available upgraded versions.

19) Which of the following cannot be applied with the software according to Software Engineering Layers?

- a. Process
- b. Methods
- c. Manufacturing
- d. None of the above.

ANSWER: Manufacturing

20) Which software is used to control products and systems for the consumer and industrial markets?

- a. System software
- b. Artificial intelligence software
- c. Embedded software
- d. Engineering and scientific software

ANSWER: Embedded software

21) Which software enables the program to adequately manipulate information?

- a. Instructions
- b. Data Structures
- c. Documents
- d. All of the above

ANSWER: Data Structures

22) Which coding element is generally omitted at the end of line?

- a. Naming conventions
- b. Identifying
- c. Whitespace
- d. Operators

ANSWER: Whitespace

23) The rules of writing ‘if-then-else’, ‘case-switch’, ‘while-until’ and ‘for’ control flow statements are called _____ .

- a. Comments
- b. Functions
- c. Line length and wrapping
- d. Control Structure

ANSWER: Control Structure

24) If an application allows executing multiple instances of itself, they appear on the screen as separate windows are called _____ .

- a. Window
- b. Tabs
- c. Menu
- d. Cursor

ANSWER: Tabs

25) Match the List 1 to List 2 and choose the correct option.

- | | |
|----------------------------------|--|
| 1. Requirement Elicitation ----- | a. Module Development and integration. |
| 2. Design----- | b. Analysis |
| 3. Implementation----- | c. Structure and behavioral |
| 4. Maintenance ----- | d. Performance tuning. |

- a. 1-c , 2-a , 3-d , 4-b
- b. 1-c , 2-a , 3-b , 4-d
- c. 1-a , 2-c , 3-d , 4-b
- d. 1-b , 2-c , 3-a , 4-d

ANSWER: 1-b , 2-c , 3-a , 4-d

301) Which one of these belongs to integration testing in the OO context?

- a. Unit testing
- b. Regression testing
- c. Sandwich testing
- d. Thread-based testing

ANSWER: Thread-based testing

302) In which elicitation process the developers discuss with the client and end users and know their expectations from the software?

- a. Requirement gathering
- b. Organizing requirements
- c. Negotiation & discussion
- d. Documentation

ANSWER: Requirement gathering

303) If requirements are easily understandable and defined then which model is best suited?

- a. Spiral model
- b. Waterfall model
- c. Prototyping model
- d. None of the above

ANSWER: Waterfall model

304) Which Software-end factors affecting maintenance Cost?

- a. Structure of Software Program
- b. Programming Language
- c. Dependence on external environment
- d. All mentioned above
- e. None of the above

ANSWER: All mentioned above

305) Software quality assurance is an umbrella activity.

- a. True
- b. False

ANSWER: True

306) Software process and improvement are assessed by ____.

- a. ISO 9000
- b. ISO 9001
- c. SPICE (ISO/IEC15504)
- d. Both B and C

ANSWER: Both B and C

307) CASE Tool stands for.

- a. Computer Aided Software Engineering
- b. Component Aided Software Engineering
- c. Constructive Aided Software Engineering
- d. Computer Analysis Software Engineering

ANSWER: Computer Aided Software Engineering

308) Software is defined as ____ .

- a. Instructions
- b. Data Structures
- c. Documents
- d. All of the above

ANSWER: All of the above

309) During security testing the tester plays the role of the individual who desires to_____ .

- a. Penetrates the system
- b. Penetrates the listener
- c. Both A & B
- d. None of the above

ANSWER: Penetrates the system

310) Which of the following is not a section in the standard for SQA plans recommended by IEEE?

- a. Budget
- b. Time
- c. People
- d. None of the above

ANSWER: Budget

311) Which box specifies the behavior of a system or a part of a system?

- a. State box
- b. Clear box
- c. Black box
- d. None of the above

ANSWER: Black box

312) FAST stands for _____ .

- a. Facilitated Application Software Technique.
- b. Functional Application Software Technique.
- c. Facilitated Application Specification Technique.
- d. None of the above.

ANSWER: Facilitated Application Specification Technique.

313) Which may be estimated either in terms of KLOC (Kilo Line of Code) or by calculating number of function points in the software?

- a. Time estimation
- b. Effort estimation
- c. Cost estimation
- d. Software size estimation

ANSWER: Software size estimation

314) SDLC Models are adopted as per requirements of development process. It may vary Software-to-software to ensuring which model is suitable.

- a. True
- b. False

ANSWER: True

315) The always growing and adapting nature of software hugely depends upon the environment in which user works in _____ .

- a. Cost
- b. Dynamic Nature
- c. Quality Management
- d. Scalability

ANSWER: Dynamic Nature

316) When the customer may ask for new features or functions in the software, what does it mean in Software maintenance?

- a. Host modifications
- b. Client requirements
- c. Market conditions
- d. Organization changes

ANSWER: Client requirements

317) Reliability is measured by considering processing speed, response time, resource consumption, throughput, and efficiency.

- a. True
- b. False

ANSWER: False

318) Abbreviate the term CASE.

- a. Computer Authorized Software Engineering
- b. Computer Aided Software Engineering
- c. Common Authorized Software Engineering
- d. Common Aided Software Engineering

ANSWER: Computer Aided Software Engineering

319) What is described by means of DFDs as studied earlier and represented in algebraic form?

- a. Data flow
- b. Data storage
- c. Data Structures
- d. Data elements

ANSWER: Data flow

320) Which metrics are derived by normalizing quality and/or productivity measures by considering the size of the software that has been produced?

- a. Size oriented
- b. Function-Oriented
- c. Object-Oriented
- d. Use-case-Oriented

ANSWER: Size oriented

321) What are the signs that a software project is in trouble?

- a. The product scope is poorly defined.
- b. Deadlines are unrealistic.

- c. Changes are managed poorly.
- d. All of the above.

ANSWER: All of the above.

322) Application that generate a dialogue to get confirmation from user and to delete a file it is an example for _____ .

- a. Radio-Button
- b. Text-box
- c. Check-box
- d. Dialogue box

ANSWER: Dialogue box

323) What is used for implementing the changes in existing or new requirements of user in software maintenance?

- a. Preventive maintenance
- b. Perfective maintenance
- c. Corrective
- d. Adaptive

ANSWER: Perfective maintenance

324) Lehman has given eight laws for software evolution and he divided software into three categories. In which category software works strictly according to defined specifications and solutions.

- a. Static-type
- b. Embedded-type
- c. Practical-type
- d. None of the above

ANSWER: Embedded-type

325) Computer software is a complete package, which includes software program, its documentation and user guide on how to use the software.

- a. True
- b. False

ANSWER: True

- 1) What are the characteristics of software?**
- a. Software is developed or engineered; it is not manufactured in the classical sense.
 - b. Software doesn't "wear out".
 - c. Software can be custom built or custom build.
 - d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 2) Compilers, Editors software come under which type of software?** a. System software
b. Application software
c. Scientific software
d. None of the above.

Answer [Explanation](#)

ANSWER: System software

Explanation:

No explanation is available for this question!

- 3) Software Engineering is defined as systematic, disciplined and quantifiable approach for the development, operation and maintenance of software.** a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 4) RAD Software process model stands for _____.** a. Rapid Application Development.
b. Relative Application Development.
c. Rapid Application Design.
d. Recent Application Development.

Answer [Explanation](#)

ANSWER: Rapid Application Development.

Explanation:

No explanation is available for this question!

- 5) Software project management comprises of a number of activities, which contains _____.** a. Project planning
b. Scope management
c. Project estimation
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 6) COCOMO stands for _____ .**
- a. COnsumed COst MOdel
 - b. COnstructive COst MOdel
 - c. CCommon COntrol MOdel
 - d. COmposition COst MOdel

Answer [Explanation](#)

ANSWER: COnstructive COst MOdel

Explanation:

No explanation is available for this question!

- 7) Which of the following is not defined in a good Software Requirement Specification (SRS) document?**
- a. Functional Requirement.
 - b. Nonfunctional Requirement.
 - c. Goals of implementation.
 - d. Algorithm for software implementation.

Answer [Explanation](#)

ANSWER: Algorithm for software implementation.

Explanation:

No explanation is available for this question!

- 8) What is the simplest model of software development paradigm?**
- a. Spiral model
 - b. Big Bang model
 - c. V-model
 - d. Waterfall model

Answer [Explanation](#)

ANSWER: Waterfall model

Explanation:

No explanation is available for this question!

- 9) Which of the following is the understanding of software product limitations, learning system related problems or changes to be done in existing systems beforehand, identifying and addressing the impact of project on organization and personnel etc?**
- a. Software Design
 - b. Feasibility Study
 - c. Requirement Gathering
 - d. System Analysis

Answer [Explanation](#)

ANSWER: System Analysis

Explanation:

No explanation is available for this question!

- 10) Which design identifies the software as a system with many components interacting with each other?**
- a. Architectural design
 - b. High-level design
 - c. Detailed design
 - d. Both B & C

Answer [Explanation](#)

ANSWER: Architectural design

Explanation:

No explanation is available for this question!

11) Which defect amplification model is used to illustrate the generation and detection of errors during the preliminary steps of a software engineering process? a. Design

- b. Detailed design
- c. Coding
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

12) Which method is used for evaluating the expression that passes the function as an argument? a. Strict evaluation

- b. Recursion
- c. Calculus
- d. Pure functions

Answer [Explanation](#)

ANSWER: Strict evaluation

Explanation:

No explanation is available for this question!

13) Which factors affect the probable consequences if a risk occur? a. Risk avoidance

- b. Risk monitoring
- c. Risk timing
- d. Contingency planning

Answer [Explanation](#)

ANSWER: Risk timing

Explanation:

No explanation is available for this question!

14) Staff turnover, poor communication with the customer are risks that are extrapolated from past experience are called _____. a. Business risks

- b. Predictable risks
- c. Project risks
- d. Technical risks

Answer [Explanation](#)

ANSWER: Predictable risks

Explanation:

No explanation is available for this question!

15) Organization can have in-house inspection, direct involvement of users and release of beta version are few of them and it also includes usability, compatibility, user acceptance etc. is called _____.

- a. Task analysis
- b. GUI requirement gathering
- c. GUI design & implementation
- d. Testing

Answer [Explanation](#)

ANSWER: Testing

Explanation:

No explanation is available for this question!

16) Which project is undertaken as a consequence of a specific customer request? a. Concept development projects

- b. Application enhancement projects
- c. New application development projects
- d. Application maintenance projects

Answer [Explanation](#)

ANSWER: New application development projects

Explanation:

No explanation is available for this question!

17) Requirement engineering process includes which of these steps? a. Feasibility study

- b. Requirement Gathering
- c. Software Requirement specification & Validation
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

18) Software safety is a quality assurance activity that focuses on hazards that may cause an entire system to fail. a. True

- b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 19) Give the disadvantages of modularization.** a. Smaller components are easier to maintain
b. Program can be divided based on functional aspects
c. Desired level of abstraction can be brought in the program
d. None of the above

Answer [Explanation](#)

ANSWER: None of the above

Explanation:

No explanation is available for this question!

- 20) Effective software project management focuses on the four P's. What are those four P's?** a. People, performance, payment, product
b. People, product, process, project
c. People, product, performance, project
d. All of the above.

Answer [Explanation](#)

ANSWER: People, product, process, project

Explanation:

No explanation is available for this question!

- 21) Give the Real-world factors affecting maintenance Cost.** a. As technology advances, it becomes costly to maintain old software.
b. The standard age of any software is considered up to 10 to 15 years.
c. Most maintenance engineers are newbie and use trial and error method to rectify problem.
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 22) Mention any two indirect measures of product.** a. Quality
b. Efficiency
c. Accuracy
d. Both A and B
e. Both B and C

Answer [Explanation](#)

ANSWER: Both A and B

Explanation:

No explanation is available for this question!

- 23) Which testing is the re-execution of some subset of tests that have already been conducted to ensure the changes that are not propagated?** a. Unit testing
b. Regression testing
c. Integration testing
d. Thread-based testing

Answer [Explanation](#)

ANSWER: Regression testing

Explanation:

No explanation is available for this question!

24) State if the following are true for Project Management.

During Project Scope management, it is necessary to -

- 1) Define the scope
- 2) Decide its verification and control
- 3) Divide the project into various smaller parts for ease of management.
- 4) Verify the scope

- a. True
- b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

25) Software Requirement Specification (SRS) is also known as specification of

- _____ .
 - a. White box testing
 - b. Acceptance testing
 - c. Integrated testing
 - d. Black box testing

ANSWER: Black box testing

- 1) Which one of these belongs to integration testing in the OO context? a. Unit testing
- b. Regression testing
- c. Sandwich testing
- d. Thread-based testing

Answer [Explanation](#)

ANSWER: Thread-based testing

Explanation:

No explanation is available for this question!

- 2) In which elicitation process the developers discuss with the client and end users and know their expectations from the software? a. Requirement gathering
- b. Organizing requirements
- c. Negotiation & discussion
- d. Documentation

Answer [Explanation](#)

ANSWER: Requirement gathering

Explanation:

No explanation is available for this question!

- 3) If requirements are easily understandable and defined then which model is best suited? a. Spiral model
b. Waterfall model
c. Prototyping model
d. None of the above

Answer [Explanation](#)

ANSWER: Waterfall model

Explanation:

No explanation is available for this question!

- 4) Which Software-end factors affecting maintenance Cost? a. Structure of Software Program
b. Programming Language
c. Dependence on external environment
d. All mentioned above
e. None of the above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 5) Software quality assurance is an umbrella activity. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 6) Software process and improvement are assessed by _____. a. ISO 9000
b. ISO 9001
c. SPICE (ISO/IEC15504)
d. Both B and C

Answer [Explanation](#)

ANSWER: Both B and C

Explanation:

No explanation is available for this question!

- 7) CASE Tool stands for.
- a. Computer Aided Software Engineering
 - b. Component Aided Software Engineering
 - c. Constructive Aided Software Engineering
 - d. Computer Analysis Software Engineering

Answer [Explanation](#)

ANSWER: Computer Aided Software Engineering

Explanation:

No explanation is available for this question!

- 8) Software is defined as ____ .
- a. Instructions
 - b. Data Structures
 - c. Documents
 - d. All of the above

Answer [Explanation](#)

ANSWER: All of the above

Explanation:

No explanation is available for this question!

- 9) During security testing the tester plays the role of the individual who desires to ____ .
- a. Penetrates the system
 - b. Penetrates the listener
 - c. Both A & B
 - d. None of the above

Answer [Explanation](#)

ANSWER: Penetrates the system

Explanation:

No explanation is available for this question!

- 10) Which of the following is not a section in the standard for SQA plans recommended by IEEE?
- a. Budget
 - b. Time
 - c. People
 - d. None of the above

Answer [Explanation](#)

ANSWER: Budget

Explanation:

No explanation is available for this question!

- 11) Which box specifies the behavior of a system or a part of a system?
- a. State box
 - b. Clear box
 - c. Black box
 - d. None of the above

Answer [Explanation](#)

ANSWER: Black box**Explanation:**

No explanation is available for this question!

- 12) FAST stands for _____.
a. Facilitated Application Software Technique.
b. Functional Application Software Technique.
c. Facilitated Application Specification Technique.
d. None of the above.

Answer [Explanation](#)

ANSWER: Facilitated Application Specification Technique.**Explanation:**

No explanation is available for this question!

- 13) Which may be estimated either in terms of KLOC (Kilo Line of Code) or by calculating number of function points in the software?
a. Time estimation
b. Effort estimation
c. Cost estimation
d. Software size estimation

Answer [Explanation](#)

ANSWER: Software size estimation**Explanation:**

No explanation is available for this question!

- 14) SDLC Models are adopted as per requirements of development process. It may vary Software-to-software to ensuring which model is suitable.
a. True
b. False

Answer [Explanation](#)

ANSWER: True**Explanation:**

No explanation is available for this question!

- 15) The always growing and adapting nature of software hugely depends upon the environment in which user works in _____.
a. Cost
b. Dynamic Nature
c. Quality Management
d. Scalability

Answer [Explanation](#)

ANSWER: Dynamic Nature**Explanation:**

No explanation is available for this question!

- 16) When the customer may ask for new features or functions in the software, what does it mean in Software maintenance? a. Host modifications
b. Client requirements
c. Market conditions
d. Organization changes

Answer [Explanation](#)

ANSWER: Client requirements

Explanation:

No explanation is available for this question!

-
- 17) Reliability is measured by considering processing speed, response time, resource consumption, throughput, and efficiency.

- a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

-
- 18) Abbreviate the term CASE. a. Computer Authorized Software Engineering
b. Computer Aided Software Engineering
c. Common Authorized Software Engineering
d. Common Aided Software Engineering

Answer [Explanation](#)

ANSWER: Computer Aided Software Engineering

Explanation:

No explanation is available for this question!

-
- 19) What is described by means of DFDs as studied earlier and represented in algebraic form? a. Data flow
b. Data storage
c. Data Structures
d. Data elements

Answer [Explanation](#)

ANSWER: Data flow

Explanation:

No explanation is available for this question!

-
- 20) Which metrics are derived by normalizing quality and/or productivity measures by considering the size of the software that has been produced? a. Size oriented
b. Function-Oriented
c. Object-Oriented
d. Use-case-Oriented

Answer [Explanation](#)

ANSWER: Size oriented

Explanation:

No explanation is available for this question!

21) What are the signs that a software project is in trouble? a. The product scope is poorly defined.

- b. Deadlines are unrealistic.
- c. Changes are managed poorly.
- d. All of the above.

Answer [Explanation](#)

ANSWER: All of the above.

Explanation:

No explanation is available for this question!

22) Application that generate a dialogue to get confirmation from user and to delete a file it is an example for _____. a. Radio-Button

- b. Text-box
- c. Check-box
- d. Dialogue box

Answer [Explanation](#)

ANSWER: Dialogue box

Explanation:

No explanation is available for this question!

23) What is used for implementing the changes in existing or new requirements of user in software maintenance? a. Preventive maintenance

- b. Perfective maintenance
- c. Corrective
- d. Adaptive

Answer [Explanation](#)

ANSWER: Perfective maintenance

Explanation:

No explanation is available for this question!

24) Lehman has given eight laws for software evolution and he divided software into three categories. In which category software works strictly according to defined specifications and solutions.

- a. Static-type
- b. Embedded-type
- c. Practical-type
- d. None of the above

Answer [Explanation](#)

ANSWER: Embedded-type

Explanation:

No explanation is available for this question!

- 25) Computer software is a complete package, which includes software program, its documentation and user guide on how to use the software. a. True
b. False

Answer [Explanation](#)

ANSWER: True

- 1) Which document is created by system analyst after the requirements are collected from Various stakeholders? a. Software requirement specification
b. Software requirement validation
c. Feasibility study
d. Requirement Gathering

Answer [Explanation](#)

ANSWER: Software requirement specification

Explanation:

No explanation is available for this question!

- 2) Which is focused towards the goal of the organization? a. Feasibility study
b. Requirement gathering
c. Software requirement specification
d. Software requirement validation

Answer [Explanation](#)

ANSWER: Feasibility study

Explanation:

No explanation is available for this question!

- 3) The architectural model is derived from which of these sources?
A) Information about the application domain for the software to be built;
B) Specific requirements model elements such as data flow diagrams or analysis classes, their relationships and collaborations for the problem at hand;
C) The availability of architectural styles and patterns.
a. Both A & B
b. Both B & C
c. Both A & C
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 4) What is the correctness, completeness, and consistency of the requirements model will have a strong influence on the quality of all work products that follow? a. Requirement quality
b. Design quality
c. Code quality
d. Quality control effectiveness

Answer [Explanation](#)

ANSWER: Requirement quality

Explanation:

No explanation is available for this question!

-
- 5) An entity in ER Model is a real world being, which has some properties called _____.
a. Attributes
b. Relationship
c. Domain
d. None of the above

Answer [Explanation](#)

ANSWER: Attributes

Explanation:

No explanation is available for this question!

-
- 6) What is the most common measure for correctness? a. Defects per KLOC
b. Errors per KLOC
c. \$ per KLOC
d. Pages of documentation per KLOC

Answer [Explanation](#)

ANSWER: Defects per KLOC

Explanation:

No explanation is available for this question!

-
- 7) Which documentation works as a key tool for software designer, developer and their test team is to carry out their respective tasks? a. Requirement documentation
b. User documentation
c. Software design documentation
d. Technical documentation

Answer [Explanation](#)

ANSWER: Requirement documentation

Explanation:

No explanation is available for this question!

-
- 8) Which tools are used in implementation, testing and maintenance? a. Upper case tools
b. Integrated case tools
c. Lower case tools
d. None of the above

Answer [Explanation](#)

ANSWER: Lower case tools

Explanation:

No explanation is available for this question!

9) Which risk gives the degree of uncertainty and the project schedule will be maintained so that the product will be delivered in time? a. Business risk

- b. Technical risk
- c. Schedule risk
- d. Project risk

Answer [Explanation](#)

ANSWER: Schedule risk

Explanation:

No explanation is available for this question!

10) You are working in CareerRide as a project manager. Company wants to develop a project. You are also involved in planning team. What will be your first step in project planning? a. Establish the objectives and scope of the product.

- b. Determine the project constraints.
- c. Select the team.
- d. None of the above.

Answer [Explanation](#)

ANSWER: Establish the objectives and scope of the product.

Explanation:

No explanation is available for this question!

11) Configuration management is an essential part of the system maintenance. It is aided with version control tools to control versions, semi-version or patch management. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

12) Which model is also known as Verification and validation model? a. Waterfall model
b. Big Bang model
c. V-model
d. Spiral model

Answer [Explanation](#)

ANSWER: V-model

Explanation:

No explanation is available for this question!

13) Software project management is the process of managing all activities that are involved in software development, they are _____. a. Time

- b. Cost
- c. Quality management
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

14) A small picture representing an associated application, what does it mean? a. Icon

- b. Window
- c. Menu
- d. Cursor

Answer [Explanation](#)

ANSWER: Icon

Explanation:

No explanation is available for this question!

15) What is the meaning of requirement elicitation in software engineering? a. Gathering of requirement.

- b. Understanding of requirement.
- c. Getting the requirements from client.
- d. All of the above.

Answer [Explanation](#)

ANSWER: All of the above.

Explanation:

No explanation is available for this question!

16) Which of the following is/are Project Estimation Technique? a. Empirical Estimation Technique.

- b. Heuristic Estimation Technique.
- c. Analytical Estimation Technique.
- d. All of the above.

Answer [Explanation](#)

ANSWER: All of the above.

Explanation:

No explanation is available for this question!

- 17) The maximum number of objects that can participate in a relationship is called _____
- . a. Cardinality
 - b. Attributes
 - c. Operations
 - d. Transformers

Answer [Explanation](#)

ANSWER: Cardinality

Explanation:

No explanation is available for this question!

- 18) What is legacy system? a. A legacy system refers to newer version of software.
b. A legacy system refers to outdated application software that is used instead of available upgraded versions.
c. A legacy system always devolved by advance technology.
d. None of the above.

Answer [Explanation](#)

ANSWER: A legacy system refers to outdated application software that is used instead of available upgraded versions.

Explanation:

No explanation is available for this question!

- 19) Which of the following cannot be applied with the software according to Software Engineering Layers?
- a. Process
 - b. Methods
 - c. Manufacturing
 - d. None of the above.

Answer [Explanation](#)

ANSWER: Manufacturing

Explanation:

No explanation is available for this question!

- 20) Which software is used to control products and systems for the consumer and industrial markets? a. System software
b. Artificial intelligence software
c. Embedded software
d. Engineering and scientific software

Answer [Explanation](#)

ANSWER: Embedded software

Explanation:

No explanation is available for this question!

- 21) Which software enables the program to adequately manipulate information? a. Instructions
b. Data Structures

- c. Documents
- d. All of the above

Answer [Explanation](#)

ANSWER: Data Structures

Explanation:

No explanation is available for this question!

- 22) Which coding element is generally omitted at the end of line? a. Naming conventions
b. Identifying
c. Whitespace
d. Operators

Answer [Explanation](#)

ANSWER: Whitespace

Explanation:

No explanation is available for this question!

- 23) The rules of writing 'if-then-else', 'case-switch', 'while-until' and 'for' control flow statements are called _____. a. Comments
b. Functions
c. Line length and wrapping
d. Control Structure

Answer [Explanation](#)

ANSWER: Control Structure

Explanation:

No explanation is available for this question!

- 24) If an application allows executing multiple instances of itself, they appear on the screen as separate windows are called _____. a. Window
b. Tabs
c. Menu
d. Cursor

Answer [Explanation](#)

ANSWER: Tabs

Explanation:

No explanation is available for this question!

- 25) Match the List 1 to List 2 and choose the correct option.
- | | |
|----------------------------------|--|
| 1. Requirement Elicitation ----- | a. Module Development and integration. |
| 2. Design----- | b. Analysis |
| 3. Implementation----- | c. Structure and behavioral |
| 4. Maintenance ----- | d. Performance tuning. |
- a. 1-c , 2-a , 3-d , 4-b
b. 1-c , 2-a , 3-b , 4-d

- c. 1-a , 2-c , 3-d , 4-b
- d. 1-b , 2-c , 3-a , 4-d

Answer [Explanation](#)

ANSWER: 1-b , 2-c , 3-a , 4-d

1) From the following, which software has been characterized by 'Number Crunching' Algorithms?

- a. System software
- b. Artificial intelligence software
- c. Embedded software
- d. Engineering and scientific software

Answer [Explanation](#)

ANSWER: Engineering and scientific software

Explanation:

No explanation is available for this question!

2) IEEE provides a standard as IEEE 830-1993. For which activity this standard is recommended standard? a. Software requirement specification.
b. Software design.
c. Testing.
d. Both a and b

Answer [Explanation](#)

ANSWER: Software requirement specification.

Explanation:

No explanation is available for this question!

3) A generic process framework for software engineering encompasses five activities. What are those activities? a. Communication, risk management, measurement, production, deployment.
b. Communication, Planning, Modeling, construction, deployment.
c. Analysis, designing, programming, debugging, maintenance
d. None of the above.

Answer [Explanation](#)

ANSWER: Communication, Planning, Modeling, construction, deployment.

Explanation:

No explanation is available for this question!

4) Who deliver the technical skills that are necessary to engineer for a product or an application? a. Project managers
b. Practitioners
c. Customers
d. End users

Answer [Explanation](#)

ANSWER: Practitioners

Explanation:

No explanation is available for this question!

- 5) Project risk factor is considered in which model? a. Spiral model.
b. Waterfall model.
c. Prototyping model
d. None of the above.

Answer [Explanation](#)

ANSWER: Spiral model.

Explanation:

No explanation is available for this question!

- 6) What is a child window that contains message for the user and request for some action to be taken? a. Dialogue box
b. Text-Box
c. Check-Box
d. Radio Button

Answer [Explanation](#)

ANSWER: Dialogue box

Explanation:

No explanation is available for this question!

- 7) A Project can be characterized as _____. a. Every project may not have a unique and distinct goal.
b. Project is routine activity or day-to-day operations.
c. Project does not comes with a start time and end time.
d. All mentioned above.
e. None of the above.

Answer [Explanation](#)

ANSWER: None of the above.

Explanation:

No explanation is available for this question!

- 8) Which model is not suitable for large software projects but good one for learning and experimenting? a. Big Bang model
b. Spiral model
c. Iterative model
d. Waterfall model

Answer [Explanation](#)

ANSWER: Big Bang model

Explanation:

No explanation is available for this question!

- 9) Which includes modifications and updations done in order to correct or fix the problems, that are either discovered by user or concluded by user error reports? a. Perfective maintenance
b. Adaptive maintenance
c. Corrective maintenance
d. Preventive maintenance

Answer [Explanation](#)

ANSWER: Corrective maintenance

Explanation:

No explanation is available for this question!

- 10) Boehm suggests an approach that addresses project objectives, milestones and schedules, responsibilities, management and technical approaches and required resources, This principle is called as _____. a. W3HH principle
b. WHO principle
c. W5HH principle
d. None of the above.

Answer [Explanation](#)

ANSWER: W5HH principle

Explanation:

No explanation is available for this question!

- 11) The objective for formal technical review is to core errors in software work products. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 12) CASE tools are set of automated software application programs, that are not used to support, accelerate and smoothen the SDLC activities. a. Yes
b. No

Answer [Explanation](#)

ANSWER: No

Explanation:

No explanation is available for this question!

- 13) From the following give three major categories of risk,
1) Schedule risk
2) Project risk
3) Technical risk
4) Business risk a. 1,2 and 3
b. 2,3 and 4
c. 1,2 and 4
d. 1,3 and 4

Answer [Explanation](#)

ANSWER: 2,3 and 4

Explanation:

No explanation is available for this question!

14) Activities and action taken on the data are represented by circle or round-edged rectangles is called _____ .

- a. Entities
- b. Process
- c. Data storage
- d. Data flow

Answer [Explanation](#)

ANSWER: Process

Explanation:

No explanation is available for this question!

15) The six sigma for software engineering what gives the existing process and its output to determine the current quality performance? a. Define

- b. Analyze
- c. Measure
- d. None of the above

Answer [Explanation](#)

ANSWER: Measure

Explanation:

No explanation is available for this question!

16) Which tools are helpful in all the stages of SDLC, for requirement gathering to testing and documentation? a. Upper case tools

- b. Lower case tools
- c. Integrated case tools
- d. None of the above

Answer [Explanation](#)

ANSWER: Integrated case tools

Explanation:

No explanation is available for this question!

17) OOD languages provide a mechanism where methods performing similar tasks but vary in arguments, and that can be assigned to the same name is called _____ .

- a. Classes
- b. Object
- c. Polymorphism
- d. Encapsulation

Answer [Explanation](#)

ANSWER: Polymorphism

Explanation:

No explanation is available for this question!

- 18) Abbreviate the term SMI. a. Software Maturity Index
b. Software Model Instruction
c. Software Maturity Instruction
d. Software Model Index

Answer [Explanation](#)

ANSWER: Software Maturity Index

Explanation:

No explanation is available for this question!

- 19) What computer-based system can have a profound effect on the design that is chosen and also the implementation approach will be applied? a. Scenario-based elements
b. Class-based elements
c. Behavioural elements
d. Flow-oriented elements

Answer [Explanation](#)

ANSWER: Behavioural elements

Explanation:

No explanation is available for this question!

- 20) SRS is a document created by system analyst after the requirements are collected from various stakeholders. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

- 21) Which structures in Organizational Paradigms on a team loosely and depends on individual initiative of the team members? a. Closed paradigm
b. Open paradigm
c. Random paradigm
d. Synchronous paradigm

Answer [Explanation](#)

ANSWER: Random paradigm

Explanation:

No explanation is available for this question!

- 22) Give the name to diagram that represents the flow of activities described by the use cases and at the same time the captors are involved in UML . a. State diagram
b. Swim lane diagram
c. Activity diagram
d. Component diagram

Answer [Explanation](#)

ANSWER: Swim lane diagram

Explanation:

No explanation is available for this question!

-
- 23) Which phase is refers to the support phase of software development? a. Acceptance Phase.
b. Testing.
c. Maintenance.
d. None of the above.

Answer [Explanation](#)

ANSWER: Maintenance.

Explanation:

No explanation is available for this question!

-
- 24) Which model is also called as the classic life cycle or the Waterfall model? a. Iterative Development
b. Linear Sequential Development
c. RAD Model.
d. Incremental Development

Answer [Explanation](#)

ANSWER: Linear Sequential Development

Explanation:

No explanation is available for this question!

-
- 25) What is the average effective global activity rate in an evolving E-type system is invariant over the lifetime of the product? a. Self-regulation
b. Reducing quality
c. Feedback systems
d. Organizational stability

Answer [Explanation](#)

ANSWER: Organizational stability

- 1) Which of these software characteristics are used to determine the scope of a software project? a. Only performance.
b. Only context.
c. Information objectives, function, performance
d. None of the above.

Answer [Explanation](#)

ANSWER: Information objectives, function, performance

Explanation:

No explanation is available for this question!

- 2) Which level of sub-system is used of an application? a. Application level
b. Component level
c. Modules level
d. None of the above

Answer [Explanation](#)

ANSWER: Component level

Explanation:

No explanation is available for this question!

- 3) SDLC is not a well-defined, structured sequence of stages in software engineering to develop the intended software product. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 4) In the Empirical Estimation Technique which model is developed by Barry W. Boehm? a. Putnam model
b. COCOMO
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: COCOMO

Explanation:

No explanation is available for this question!

- 5) From the following select the correct option that is used to display the available option for selection. a. Check-box
b. Text-box
c. Button
d. Radio-Button

Answer [Explanation](#)

ANSWER: Radio-Button

Explanation:

No explanation is available for this question!

- 6) CMM model in Software Engineering is a technique of _____. a. Develop the software.
b. Improve the software process.

- c. Improve the testing process.
- d. All of the above.

Answer [Explanation](#)

ANSWER: Improve the software process.

Explanation:

No explanation is available for this question!

- 7) Transformers is one of the broad category used to classify operations. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 8) The tools that support different stages of software development life cycle are called as _____ . a. CASE Tools
b. CAME tools
c. CAQE tools
d. CARE tools

Answer [Explanation](#)

ANSWER: CASE Tools

Explanation:

No explanation is available for this question!

- 9) Which is not a step of Requirement Engineering? a. Requirements elicitation
b. Requirements analysis
c. Requirements design
d. Requirements documentation

Answer [Explanation](#)

ANSWER: Requirements design

Explanation:

No explanation is available for this question!

- 10) Which of the level carries out goal, objective, work tasks, work products and other activities of the software process? a. Performed
b. INCOMPLETE
c. Optimized
d. Quantitatively Managed

Answer [Explanation](#)

ANSWER: Performed

Explanation:

No explanation is available for this question!

- 11) If you have no clue of how to improve the process for the quality software which model is used?
a. A Continuous model
b. A Staged model
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: A Staged model

Explanation:

No explanation is available for this question!

- 12) In Software validation, requirements can be checked against following conditions:
1) If they can be practically implemented
2) If they are valid and as per functionality and domain of software
3) If there are any ambiguities
4) If they are completed
a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 13) In OOD, the attributes(data variables) and methods(operation on the data) are bundled together is called _____.
a. Classes
b. Objects
c. Encapsulation
d. Inheritance

Answer [Explanation](#)

ANSWER: Encapsulation

Explanation:

No explanation is available for this question!

- 14) Which design defines the logical structure of each module and their interfaces that is used to communicate with other modules?
a. High-level designs
b. Architectural designs
c. Detailed design
d. All mentioned above

Answer [Explanation](#)

ANSWER: Detailed design

Explanation:

No explanation is available for this question!

- 15) Which tools are used in Implementation, Testing and Maintenance? a. Upper case tools
b. Lower case tools
c. Integrated case tools
d. None of the above

Answer [Explanation](#)

ANSWER: Lower case tools

Explanation:

No explanation is available for this question!

- 16) Which tools are used for project planning, cost, effort estimation, project scheduling and resource planning? a. Process modeling tools
b. Project management tools
c. Diagram tools
d. Documentation tools

Answer [Explanation](#)

ANSWER: Project management tools

Explanation:

No explanation is available for this question!

- 17) Which design deals with the implementation part in which it shows a system and its sub-systems in the previous two designs? a. Architectural design
b. High-level design
c. Detailed design
d. Both A & B

Answer [Explanation](#)

ANSWER: Detailed design

Explanation:

No explanation is available for this question!

- 18) Modularization is a technique to divide a software system into multiple discrete and independent modules. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 19) What is the project and process level that provides the Quality Metric benefit?
a. Defect amplification
b. Defect removal efficiency

- c. Measuring quality
- d. All mentioned above

Answer [Explanation](#)

ANSWER: Defect removal efficiency

Explanation:

No explanation is available for this question!

- 20) Cohesion metrics and coupling metrics are metrics in which level of design? a. User interface design
b. Pattern-based design
c. Architectural design
d. Component-level design

Answer [Explanation](#)

ANSWER: Component-level design

Explanation:

No explanation is available for this question!

- 21) Which condition defines the circumstances for a particular operation is valid? a. Postcondition
b. Precondition
c. Invariant
d. None of the above

Answer [Explanation](#)

ANSWER: Precondition

Explanation:

No explanation is available for this question!

- 22) Which subsystem implements a repository that encompasses the following elements,
1) Content database
2) Database capabilities
3) Configuration management functions
a. The publishing subsystem
b. The management subsystem
c. The collection subsystem
d. None of the above

Answer [Explanation](#)

ANSWER: The management subsystem

Explanation:

No explanation is available for this question!

- 23) Which is not a SQA activity? a. Black box testing
b. White box testing
c. Integration testing
d. Unit testing

Answer [Explanation](#)

ANSWER: White box testing

Explanation:

No explanation is available for this question!

24) PAD is metric indicates the number of classes that can access another class attributes and a violation of encapsulation. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

25) Find out which phase is not available in SDLC? a. Coding

- b. Testing
- c. Maintenance
- d. Abstraction

Answer [Explanation](#)

ANSWER: Abstraction

1) Which of the following is/are considered stakeholder in the software process? a. Customers
b. End-users
c. Project managers
d. All of the above.

Answer [Explanation](#)

ANSWER: All of the above.

Explanation:

No explanation is available for this question!

2) Software components provide interfaces, which can be used to establish communication among different components. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

3) Which SDLC activity does the user initiates the request for a desired software product? a. Requirement gathering
b. Implementation
c. Disposition
d. Communication

Answer [Explanation](#)

ANSWER: Communication

Explanation:

No explanation is available for this question!

- 4) In Risk management process what makes a note of all possible risks, that may occur in the project? a. Manage
b. Monitor
c. Categorize
d. Identification

Answer [Explanation](#)

ANSWER: Identification

Explanation:

No explanation is available for this question!

- 5) What is a measure of how well a computer system facilities learning? a. Usability
b. Functionality
c. Reliability
d. None of the above

Answer [Explanation](#)

ANSWER: Usability

Explanation:

No explanation is available for this question!

- 6) The process togather the software requirements from Client, Analyze and Document is known as _____. a. Requirement engineering process
b. Requirement elicitation process
c. User interface requirements
d. Software system analyst

Answer [Explanation](#)

ANSWER: Requirement engineering process

Explanation:

No explanation is available for this question!

- 7) Refinement is actually a process of elaboration. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 8) Who manages the effects of change throughout the software process? a. Software project tracking and control
b. Software configuration management
c. Measurement
d. Technical reviews

Answer [Explanation](#)

ANSWER: Software configuration management

Explanation:

No explanation is available for this question!

- 9) When elements of module are grouped together that are executed sequentially in order to perform a task, is called _____. a. Procedural cohesion
b. Logical cohesion
c. Emporal cohesion
d. Co-incidental cohesion

Answer [Explanation](#)

ANSWER: Procedural cohesion

Explanation:

No explanation is available for this question!

- 10) Which coupling is also known as "Global coupling"? a. Content coupling
b. Stamp coupling
c. Data coupling
d. Common coupling

Answer [Explanation](#)

ANSWER: Common coupling

Explanation:

No explanation is available for this question!

- 11) What is the detailed sequence of steps that describes the interaction between the user and the application? a. Scenario scripts
b. Support classes
c. Key classes
d. Subsystems

Answer [Explanation](#)

ANSWER: Scenario scripts

Explanation:

No explanation is available for this question!

- 12) Which risks identify Potential Design, Implementation, Interface, Verification and Maintenance Problems? a. Project risk
b. Business risk
c. Technical risk
d. Schedule risk

Answer [Explanation](#)

ANSWER: Technical risk

Explanation:

No explanation is available for this question!

13) Abbreviate the term BSS. a. Box Structure Specification

- b. Box Statistical Specification
- c. Box Statistical System
- d. Box Structure Sampling

Answer [Explanation](#)

ANSWER: Box Structure Specification

Explanation:

No explanation is available for this question!

14) What is the testing to ensure the WebApp properly interfaces with other applications or databases? a. Compatibility

- b. Interoperability
- c. Performance
- d. Security

Answer [Explanation](#)

ANSWER: Interoperability

Explanation:

No explanation is available for this question!

15) Which Variation control in the context of software engineering involves controlling variation? a. Process applied

- b. Resources expended
- c. Product quality attributes
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

16) Which classes represent data stores (e.g., a database) that will persist beyond the execution of the software? a. Process classes

- b. System classes
- c. Persistent classes
- d. User interface classes

Answer [Explanation](#)

ANSWER: Persistent classes

Explanation:

No explanation is available for this question!

- 17) Abbreviate the term CMMI. a. Capability Maturity Model Integration
b. Capability Model Maturity Integration
c. Capability Maturity Model Instructions
d. Capability Model Maturity Instructions

Answer [Explanation](#)

ANSWER: Capability Maturity Model Integration

Explanation:

No explanation is available for this question!

- 18) First level of prototype is evaluated by _____. a. Developer
b. Tester
c. User
d. System Analyst

Answer [Explanation](#)

ANSWER: User

Explanation:

No explanation is available for this question!

- 19) Which of the items listed below is not one of the software engineering layers? a. Process
b. Manufacturing
c. Methods
d. Tools

Answer [Explanation](#)

ANSWER: Manufacturing

Explanation:

No explanation is available for this question!

- 20) Line of code(LOC) of the product comes under which type of measures? a. Indirect measures
b. Direct measures
c. Coding
d. None of the above.

Answer [Explanation](#)

ANSWER: Direct measures

Explanation:

No explanation is available for this question!

- 21) What is the main aim of Software engineering? a. Reliable software
b. Cost effective software

- c. Reliable and cost effective software
- d. None of the above

Answer [Explanation](#)

ANSWER: Reliable and cost effective software

Explanation:

No explanation is available for this question!

- 22) Choose the correct option according to the given statement.

Statement 1: Software is a physical rather than a logical system element.

Statement 2: Computer software is the product that software engineers design and build.

Statement 3: Software is a logical rather than a physical system element.

Statement 4: Software is a set of application programs that are built by software engineers.

- a. Statement 1 and 2 are correct.

- b. Only Statement 2 and 3 are correct.

- c. Statement 2 and 3 and 4 are correct.

- d. All statements are correct

Answer [Explanation](#)

ANSWER: Statement 2 and 3 and 4 are correct.

Explanation:

No explanation is available for this question!

- 23) You are working in CareerRide as a project manager. What will you do to minimize the risk of software failure? a. Request a large budget

- b. You will increase the team size

- c. Track progress

- d. None of the above.

Answer [Explanation](#)

ANSWER: Track progress

Explanation:

No explanation is available for this question!

- 24) Constantine suggests four “organizational paradigms” for software engineering teams. The best project team organizational model to use when handling extremely complex problems is _____ . a. Random paradigm

- b. Open paradigm

- c. Synchronous paradigm

- d. Closed paradigm

Answer [Explanation](#)

ANSWER: Random paradigm

Explanation:

No explanation is available for this question!

- 25) For the best Software model suitable for the project, in which of the phase the developers decide a roadmap for project plan? a. Software Design

- b. System Analysis
- c. Coding
- d. Testing

Answer [Explanation](#)

ANSWER: System Analysis

- 1) Object inherits a class is known as _____. a. Maintenance
- b. Operations
- c. Transitional
- d. Development

Answer [Explanation](#)

ANSWER: Operations

Explanation:

No explanation is available for this question!

- 2) Which is the Estimation Software size should be known? a. Time estimation
- b. Effort estimation
- c. Cost estimation
- d. Software size estimation

Answer [Explanation](#)

ANSWER: Effort estimation

Explanation:

No explanation is available for this question!

- 3) What is the designers may like to have list of all functional and non-functional requirements of GUI that can be taken from user and their existing software solution? a. User analysis
- b. Task analysis
- c. GUI requirement gathering
- d. GUI design & implementation

Answer [Explanation](#)

ANSWER: GUI requirement gathering

Explanation:

No explanation is available for this question!

- 4) Which is not a broad categories that can be used to classify the operations? a. Transformers
- b. Operations
- c. Entities
- d. Attributes

Answer [Explanation](#)

ANSWER: Transformers

Explanation:

No explanation is available for this question!

- 5) Where is the prototyping model of software development well suited? a. When requirements are well defined.
b. For projects with large development teams.
c. When a customer cannot define requirements clearly.
d. None of the above.

Answer [Explanation](#)

ANSWER: When a customer cannot define requirements clearly.

Explanation:

No explanation is available for this question!

-
- 6) How many numbers of maturity levels in CMM are available? a. 3
b. 4
c. 5
d. 6

Answer [Explanation](#)

ANSWER: 5

Explanation:

No explanation is available for this question!

-
- 7) An effective project manager define a competent manager must reward Initiative and accomplishment to optimize the productivity of a project team is _____. a. Problem solving
b. Managerial identity
c. Achievement
d. Influence and team building

Answer [Explanation](#)

ANSWER: Achievement

Explanation:

No explanation is available for this question!

-
- 8) Modality is the term used to indicate whether or not a particular data object must participate in a relationship. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

-
- 9) Software Requirement Specification should come up with following features:
1) User Requirements are expressed in natural language.
2) Technical requirements are expressed in structured language, which is used inside the organization.
3) Design description should be written in Pseudo code.
a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 10) System Analysts have which of these following responsibilities? a. Analyzing and understanding requirements of intended software
b. Understanding how the project will contribute in the organization objectives
c. Identify sources of requirement
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 11) Which classes implements the lower-level business abstractions that required to fully manage the business domain classes?
a. User interface classes
b. Business domain classes
c. Process classes
d. System classes

Answer [Explanation](#)

ANSWER: Process classes

Explanation:

No explanation is available for this question!

- 12) Grouping of all functionally related elements is known as _____. a. Cohesion
b. Coupling
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Cohesion

Explanation:

No explanation is available for this question!

- 13) CASE tools are used by software project managers, analysts and engineers to develop software system. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 14) The scope of CASE tools goes throughout the SDLC. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

- 15) Which type of DFD concentrates on the system process and flow of data in the system? a. Logical DFD
b. Physical DFD
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Logical DFD

Explanation:

No explanation is available for this question!

- 16) Every attribute is defined by its corresponding set of values is called _____. a. Entity
b. Domain
c. Relationship
d. None of the above

Answer [Explanation](#)

ANSWER: Domain

Explanation:

No explanation is available for this question!

- 17) Building an excellent product or system that no one really want a risk is a _____. a. Technical risk
b. Schedule risk
c. Business risk
d. Performance risk

Answer [Explanation](#)

ANSWER: Business risk

Explanation:

No explanation is available for this question!

- 18) Budget is not a section in the standard SQA plans that are recommended in IEEE. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 19) In the management subsystem what is the functional elements and associated workflow will support the content object identification, version control, change management, change auditing and reporting? a. Content database
b. Database capabilities
c. Configuration management function
d. All mentioned above

Answer [Explanation](#)

ANSWER: Configuration management function

Explanation:

No explanation is available for this question!

- 20) Abbreviate the term ILFs. a. Interface logical files
b. Internal logical files
c. Input logical files
d. Internal logical function

Answer [Explanation](#)

ANSWER: Internal logical files

Explanation:

No explanation is available for this question!

- 21) What is a special set of ISO guidelines that developed to help the interpret standard for the use in software process? a. ISO 9001-2000
b. ISO 9001-2001
c. ISO 9000-3
d. ISO 9000-4

Answer [Explanation](#)

ANSWER: ISO 9000-3

Explanation:

No explanation is available for this question!

- 22) The ability to encourage the technical people to produce their best ability is known as _____ . a. Organization
b. Motivation
c. Ideas or innovation
d. None of the above

Answer [Explanation](#)

ANSWER: Motivation

Explanation:

No explanation is available for this question!

- 23) Mechanics for refining the processing tasks that are required for software to accomplish in some desired function is _____. a. Process decomposition
b. Problem decomposition
c. Functional decomposition
d. None of the above

Answer [Explanation](#)

ANSWER: Functional decomposition**Explanation:**

No explanation is available for this question!

- 24) Design phase is followed by _____. a. Coding
b. Testing
c. Maintenance
d. None of the above.

Answer [Explanation](#)

ANSWER: Coding**Explanation:**

No explanation is available for this question!

- 25) In software maintenance tackling the changes in the hardware and software environment where the software works, is called _____. a. Corrective
b. Perfective
c. Adaptive
d. Preventive

Answer [Explanation](#)

ANSWER: Adaptive

- 1) From the following which quality deals with maintaining the quality of the software product? a. Quality assurance
b. Quality control
c. Quality efficiency
d. None of the above

Answer [Explanation](#)

ANSWER: Quality control**Explanation:**

No explanation is available for this question!

- 2) Function-oriented design is comprised of many smaller sub-systems is known as, Functions. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

3) State if the followings are true or false.

For scheduling a project, it is necessary to:

- 1) Break down the project tasks into smaller, manageable form.
- 2) Find out various tasks and correlate them.
- 3) Estimate time frame required for each task.
- 4) Divide time into work-units.

a. True

b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

4) Software project manager is engaged with software management activities. He is responsible for _____. a. Project planning.

- b. Monitoring the progress
- c. Communication among stakeholders
- d. All mentioned above
- e. None of the above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

5) Classes communicate with one another via _____.

- a. Read sensors
- b. Dial phones
- c. Messages
- d. None of the above

Answer [Explanation](#)

ANSWER: Messages

Explanation:

No explanation is available for this question!

6) Software is not considered to be collection of executable programming code, associated libraries and documentations. a. True

b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 7) Burst force, backtracking, cause elimination are strategies used in art of debugging. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

- 8) Which quality deals with the maintaining the quality of the software product? a. Quality assurance
b. Quality control
c. Quality Efficiency
d. None of the above

Answer [Explanation](#)

ANSWER: Quality control

Explanation:

No explanation is available for this question!

- 9) Choose the correct option according to given below statement.
Statement 1: Umbrella activities are independent of any one framework activity and occur throughout the process.
Statement 2: software quality assurance, software configuration management are umbrella activity.
Statement 3: software quality assurance, software configuration management are not umbrella activity.
a. Only statement 1 is correct.
b. Statement 1 and statement 2 are correct.
c. Only statement 3 is correct.
d. Statement 1 and statement 3 are correct.

Answer [Explanation](#)

ANSWER: Statement 1 and statement 2 are correct.

Explanation:

No explanation is available for this question!

- 10) The interviews, which are held between two persons across the table is _____. a. Written
b. Non-structured
c. Group
d. One-to-one

Answer [Explanation](#)

ANSWER: One-to-one**Explanation:**

No explanation is available for this question!

- 11) Which of these primary objectives have to be achieved for the requirement model? a. To describe what the customer requires
b. To establish a basis for the creation of a software design
c. To define a set of requirements that can be validated once the software
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above**Explanation:**

No explanation is available for this question!

- 12) When elements of module are grouped because the output of one element serves as input to another element and so on, it is called _____. a. Functional Cohesion
b. Communicational cohesion
c. Sequential cohesion
d. Procedural cohesion

Answer [Explanation](#)

ANSWER: Sequential cohesion**Explanation:**

No explanation is available for this question!

- 13) The spell check feature in word processor is a module of software. a. True
b. False

Answer [Explanation](#)

ANSWER: True**Explanation:**

No explanation is available for this question!

- 14) CASE tools cannot be grouped together if they have similar functionality, process activities and capability of getting integrated with other tools. a. True
b. False

Answer [Explanation](#)

ANSWER: False**Explanation:**

No explanation is available for this question!

- 15) Which tool consist of programming environments like IDE, in-built modules library and simulation tools? a. Web development tools

- b. Prototyping tools
- c. Programming tools
- d. Design tools

Answer [Explanation](#)

ANSWER: Programming tools

Explanation:

No explanation is available for this question!

16) Which depicts flow of control in program modules?

- a. Flowchart
- b. DFD
- c. Both A & B
- d. None of the above

Answer [Explanation](#)

ANSWER: Flowchart

Explanation:

No explanation is available for this question!

17) Abbreviate the term HIPO. a. Hierarchical Input Process Output

- b. High-level Input Process Output
- c. Huge Input Process Output
- d. None of the above

Answer [Explanation](#)

ANSWER: Hierarchical Input Process Output

Explanation:

No explanation is available for this question!

18) The total number of distinct operator and operand occurrences measures are used in _____ . a. Lawrence theory

- b. Halstead's theory
- c. Kyburg, H. E.
- d. Jech, T.

Answer [Explanation](#)

ANSWER: Halstead's theory

Explanation:

No explanation is available for this question!

19) Hazard analysis focuses on the identification and assessment of potential hazards that can cause the _____ . a. External problems

- b. Internal problems
- c. Both A & B
- d. None of the above

Answer [Explanation](#)

ANSWER: External problems

Explanation:

No explanation is available for this question!

- 20) Which model gives the overall reliability of the system that is projected and certified? a. Sampling model
b. Component model
c. Certification model
d. Both A & B

Answer [Explanation](#)

ANSWER: Certification model

Explanation:

No explanation is available for this question!

- 21) Which class gives a content or function change that corrects an error or enhances local content or functionality in change management?
a. Class 1
b. Class 2
c. Class 3
d. Class 4

Answer [Explanation](#)

ANSWER: Class 1

Explanation:

No explanation is available for this question!

- 22) Which aspect is important when the software is moved from one platform to another? a. Maintenance
b. Operational
c. Transitional
d. All of the above

Answer [Explanation](#)

ANSWER: Transitional

Explanation:

No explanation is available for this question!

- 23) A software project manager is a person who undertakes the responsibility of carrying out the software project. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 24) From the following methods which size of the software product can be calculated?
a. Counting the lines of delivered code
b. Counting delivered function points
c. Both A and B
d. None of the above

Answer [Explanation](#)

ANSWER: Both A and B

Explanation:

No explanation is available for this question!

- 25) Which chart is a tool that depicts project as network diagram that is capable of graphically representing main events of project in both parallel and consecutive way?
a. PERT chart
b. Gantt chart
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: PERT chart

- 1) When elements of module are grouped because the output of one element serves as input to another and so on, it is called _____.
a. Functional cohesion
b. Sequential cohesion
c. Communicational cohesion
d. Procedural cohesion

Answer [Explanation](#)

ANSWER: Sequential cohesion

Explanation:

No explanation is available for this question!

- 2) A good design review is not important for good software design and its accuracy and quality.
a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 3) In project execution and monitoring, every project is divided into multiple phases according to that in which phase of SDLC all major tasks are performed?
a. Milestones checklist
b. Status reports
c. Activity monitoring
d. None of the above

Answer [Explanation](#)

ANSWER: Milestones checklist

Explanation:

No explanation is available for this question!

- 4) Abbreviate the term PERT. a. Program Evolution & Review Technique
b. Process Evolution & Review Tool
c. Project Evaluation & Request Technique
d. None of the above

Answer [Explanation](#)

ANSWER: Program Evolution & Review Technique

Explanation:

No explanation is available for this question!

- 5) Which is the degree where the software performs its required function? a. Correctness
b. Clarity
c. Completeness
d. Consistency

Answer [Explanation](#)

ANSWER: Correctness

Explanation:

No explanation is available for this question!

- 6) Which is the characteristics of Software risk? a. Uncertainty
b. Loss
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Both A & B

Explanation:

No explanation is available for this question!

- 7) UI can be graphical text-based, audio-video based and depending upon the underlying hardware and software combination. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 8) Data flow diagram is a graphical representation of flow of data in an information system. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 9) Object Constraint Language (OCL) is a formal notation developed, so that users of UML can add more precision to their specifications. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 10) Which is the publishing subsystem that does not require any further processing and are transmitted directly to the client side? a. Static elements
b. Publication services
c. External services
d. None of the above

Answer [Explanation](#)

ANSWER: Static elements

Explanation:

No explanation is available for this question!

- 11) Techniques that allows a software engineer to understand how a work process is completed when several people are included, is called _____. a. Work flow analysis
b. Does not track potential risks
c. Cover problem areas before they go “critical.”
d. Does not adjust work flow or tasks

Answer [Explanation](#)

ANSWER: Work flow analysis

Explanation:

No explanation is available for this question!

- 12) Which model depicts the profile of the end users of a computer system? a. User model
b. Requirements model
c. Design model
d. State model

Answer [Explanation](#)

ANSWER: User model

Explanation:

No explanation is available for this question!

- 13) System classes define all abstractions that are necessary for human computer interaction (HCI).
a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 14) To compute Function Point (FP) which of the following relationship is used? Where F_i = complexity adjustment values.
a. $FP = \text{count total} * [0.01 * S(F_i)]$
b. $FP = \text{count total} * [0.65 + 0.01 * S(F_i)]$
c. $FP = \text{count total} * [0.65]$
d. None of the above.

Answer [Explanation](#)

ANSWER: $FP = \text{count total} * [0.65 + 0.01 * S(F_i)]$

Explanation:

No explanation is available for this question!

- 15) Measure of reliability is given by _____.
a. Mean Time between success.
b. Mean reliable
c. Mean Time between failure (MTBF).
d. MTTR

Answer [Explanation](#)

ANSWER: Mean Time between failure (MTBF).

Explanation:

No explanation is available for this question!

- 16) Which of the following provides semi-automatic and automatic support to methods in a layered technology?
a. Methods
b. Tools
c. Process
d. Quality Focus

Answer [Explanation](#)

ANSWER: Tools

Explanation:

No explanation is available for this question!

- 17) If the software process were not based on scientific and engineering concepts it would be easier to re-create new software than to scale an existing one, is known as _____.
a. Cost
b. Dynamic Management
c. Large Software
d. Scalability

Answer [Explanation](#)

ANSWER: Scalability

Explanation:

No explanation is available for this question!

18) Abbreviate the term SRS. a. Software Requirement Specification

- b. Software Refining Solution
- c. Software Resource Source
- d. None of the above

Answer [Explanation](#)

ANSWER: Software Requirement Specification

Explanation:

No explanation is available for this question!

19) The process together the software requirements from Client, Analyze and Document is known as _____. a. Requirement engineering process

- b. Requirement elicitation process
- c. User interface requirements
- d. Software system analyst

Answer [Explanation](#)

ANSWER: Requirement engineering process

Explanation:

No explanation is available for this question!

20) From the following which method will be adopted in Reuse process? a. Either by keeping requirements same and adjusting components

- b. By keeping components same and modifying requirements.
- c. Both A & B
- d. None of the above

Answer [Explanation](#)

ANSWER: Both A & B

Explanation:

No explanation is available for this question!

21) Which core steps are defined by six sigma methodology? a. Analyze

- b. Define
- c. Measure
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 22) The ISO quality assurance standard that applies to software engineering is ISO 9000:2000. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 23) Which tools are used to represent the system components, data and control flow among various software components and a system structure in a graphical form? a. Process modeling tools
b. Project management tools
c. Diagram tools
d. Documentation tools

Answer [Explanation](#)

ANSWER: Diagram tools

Explanation:

No explanation is available for this question!

- 24) Which is a logical grouping of data that resides within the application's boundary and it is maintained via external inputs? a. Number of external interface files
b. Number of internal logical files
c. Number of external inquiries
d. Number of external inputs

Answer [Explanation](#)

ANSWER: Number of internal logical files

Explanation:

No explanation is available for this question!

- 25) The evaluation of metrics resulting in insight and the quality of the representation is

- a. Analysis
- b. Formulation
- c. Interpretation
- d. Feedback

Answer [Explanation](#)

ANSWER: Interpretation

- 1) Which is the way where the CMMI process meta model can be represented? a. A continuous model
b. A staged model
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Both A & B

Explanation:

No explanation is available for this question!

-
- 2) Spiral model is a combination of both Iterative model and one of the SDLC model. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 3) If the software process were based on scientific and engineering concepts, it would be easier to re-create new software than to scale an existing one.

- a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

-
- 4) The software design paradigm is a part of software development and it includes _____

- a. Design, Maintenance, Programming
b. Coding, Testing, Integration
c. Requirement gathering, Software design, Programming
d. None of the above

Answer [Explanation](#)

ANSWER: Design, Maintenance, Programming

Explanation:

No explanation is available for this question!

-
- 5) The software scope identifies what the product will do and what it will not do, what the end product will contain and what it will not contain. a. True

- b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 6) The software becomes more popular if its user interface is _____.

- a. Attractive
b. Simple to use
c. Responsive in short time
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

-
- 7) Which type of DFD shows how the data flow is actually implemented in the system and it is also more specific and close to the implementation? a. Logical DFD
b. Physical DFD
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Physical DFD

Explanation:

No explanation is available for this question!

-
- 8) Measurements can be categorized in two ways. What are those two ways? a. Direct and Indirect
b. Front and Rear
c. Metric
d. Quality and Reliability.

Answer [Explanation](#)

ANSWER: Direct and Indirect

Explanation:

No explanation is available for this question!

-
- 9) Quality of the product comes under which type of measures? a. Indirect measures
b. Direct measures
c. Coding
d. None of the above.

Answer [Explanation](#)

ANSWER: Indirect measures

Explanation:

No explanation is available for this question!

-
- 10) Requirements can be gathered from users via interviews, surveys, task analysis, brainstorming, domain analysis, prototyping, studying existing usable version of software, and by observation. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 11) In the requirement analysis which model depicts how the software behaves as a consequence of external events? a. Class-Oriented models
b. Scenario-based models
c. Flow-oriented models
d. Behavioural models

Answer [Explanation](#)

ANSWER: Behavioural models

Explanation:

No explanation is available for this question!

12) What is a black box testing method that divides the input domain of a program into classes of data from which test cases can be derived? a. Binary partitioning

- b. Equivalence partitioning
- c. State-based partitioning
- d. Attribute-based partitioning

Answer [Explanation](#)

ANSWER: Equivalence partitioning

Explanation:

No explanation is available for this question!

13) To collect qualitative data, questionnaires can be distributed to users of the prototype. a. yes

- b. no

Answer [Explanation](#)

ANSWER: yes

Explanation:

No explanation is available for this question!

14) Software Maturity Index is computed with the following formula: [MT (FA+FC+FD)]/MT. a. True

- b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

15) What does Statistical Quality Assurance involve? a. Tracking each defect to its underlying cause

- b. Isolated the "vital few" cause
- c. Moving to correct them
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

16) The New modules, that are need to be replaced or modified, and they are also designed against requirement specifications set in the previous stage is _____ . a. Acceptance testing

- b. System Testing
- c. Delivery
- d. Design

Answer [Explanation](#)

ANSWER: Design**Explanation:**

No explanation is available for this question!

-
- 17) In software maintenance removing errors spotted by users is known as _____. a. Adaptive
b. Corrective
c. Perfective
d. Preventive

Answer [Explanation](#)

ANSWER: Corrective**Explanation:**

No explanation is available for this question!

-
- 18) What should a software team apply for limited resources in a way that has the highest likelihood of achieving a high-quality result? a. Requirement quality
b. Design quality
c. Code quality
d. Quality control effectiveness

Answer [Explanation](#)

ANSWER: Quality control effectiveness**Explanation:**

No explanation is available for this question!

-
- 19) What is tested to uncover errors that indicate lack of conformance to customer requirements in the dimensions of quality? a. Structure
b. Function
c. Usability
d. Navigation

Answer [Explanation](#)

ANSWER: Function**Explanation:**

No explanation is available for this question!

-
- 20) Each metric should be validated empirically in a wide variety of contexts before being published and that are used to make decisions. a. True
b. False

Answer [Explanation](#)

ANSWER: True**Explanation:**

No explanation is available for this question!

-
- 21) Which feature relieves anxiety, so the user knows that errors can be undone? a. Support internal locus of control
b. Permit easy reversal of actions
c. Offer simple error handling
d. Design dialog to yield closure

Answer [Explanation](#)

ANSWER: Permit easy reversal of actions

Explanation:

No explanation is available for this question!

22) A command is a text-based reference to set of instructions, that are expected to be executed by the system. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

23) A good structured design has low cohesion and high coupling arrangements. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

24) What is a text-based notifier that is mostly shows the context in which the user is working, and it is also generated by the software system? a. Command prompt
b. Cursor
c. Command
d. All mentioned above

Answer [Explanation](#)

ANSWER: Command prompt

Explanation:

No explanation is available for this question!

25) Modular design unintentionally follows the rules of 'divide and conquer' problem solving strategy. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

1) Develop an abbreviated solution for the problem is an objective for building an analysis model. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

-
- 2) A quality objective for a software team is achieve in how many DRE approaches? a. 2
b. 3
c. 1
d. 4

Answer [Explanation](#)

ANSWER: 1

Explanation:

No explanation is available for this question!

-
- 3) In Re-engineering process which concepts in order to get re-engineered software? a. Apply forward engineering
b. Perform
c. Decide
d. Re-structure program

Answer [Explanation](#)

ANSWER: Apply forward engineering

Explanation:

No explanation is available for this question!

-
- 4) System size is a metric for the analysis model. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 5) Which software works strictly according to defined specifications and solutions? a. Static-type
b. Practical-type
c. Embedded-type
d. None of the above

Answer [Explanation](#)

ANSWER: Static-type

Explanation:

No explanation is available for this question!

- 6) Software scope is not a well-defined boundary, which encompasses all the activities that are done to develop and deliver the software product. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 7) Resource Histogram is an effective tool for staff planning and coordination. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 8) In the requirement analysis which model depicts the information domain for the problem? a. Data models
b. Class-Oriented models
c. Scenario-based models
d. Flow-oriented models

Answer [Explanation](#)

ANSWER: Data models

Explanation:

No explanation is available for this question!

- 9) Requirements can be checked against following conditions.

- 1) If they cannot be practically implemented.
- 2) If they are not valid and as per functionality and domain of software.
- 3) If there are no ambiguities.

- a. True
- b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 10) Every attribute is defined by its corresponding set of values, called Attributes. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 11) The logical association among entities is called relationship. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 12) Which of these activities is not one of the activities recommended to be performed by an independent SQA group? a. Serve as the sole test team for any software produced.
b. The tools and methods that support SQA actions and tasks.
c. Software configuration management procedures.
d. Organizational roles and responsibilities relative to product quality.

Answer [Explanation](#)

ANSWER: Serve as the sole test team for any software produced.

Explanation:

No explanation is available for this question!

- 13) An effective risk management plan will need to address which of the following issues? a. Risk avoidance
b. Risk monitoring
c. Contingency planning
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

14) If maintenance cost changes are often left undocumented which may cause more conflicts in future software. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

15) What is the software component repository referred by designers to search for the matching component on the basis of functionality and intended software requirements? a. Search suitable components
b. Specify components
c. Requirement specification
d. Incorporate components

Answer [Explanation](#)

ANSWER: Search suitable components

Explanation:

No explanation is available for this question!

16) Knowledge of software program, design and structure is essential in _____. a. Black-box testing
b. White-box testing
c. Integration testing
d. None of the above

Answer [Explanation](#)

ANSWER: White-box testing

Explanation:

No explanation is available for this question!

- 17) Software design is a process to transform user requirements into some suitable form, that helps the programmer in software coding and implementation. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 18) Function oriented metric were first proposed by _____ and he suggested a measure called the _____.
a. Barry Boehm, KLOC.
b. Barry Boehm, Function point.
c. Albrecht, Function point.
d. Albrecht, KLOC.

Answer [Explanation](#)

ANSWER: Albrecht, Function point.

Explanation:

No explanation is available for this question!

-
- 19) Line of code(LOC) can be used to normalize quality and/or productivity measure for _____.
a. Extended function point metrics
b. Function point metrics.
c. Size oriented metrics.
d. None of the above.

Answer [Explanation](#)

ANSWER: Size oriented metrics.

Explanation:

No explanation is available for this question!

-
- 20) Match the following List 1 with List 2:

- a. Good quality ----- i. Program does not fail for a specified time in a given environment
b. Correctness ----- ii. Meets the functional requirements
c. Predictable ----- iii. Meets both functional and non-functional requirements
d. Reliable ----- iv. Process is under statistical control Codes

- a. a - iii, b - ii, c - iv, d - i
b. a - ii, b - iii, c - iv, d - i

- c. a - i, b - ii, c - iv, d - iii
d. a - i, b - ii, c - iii, d - iv

Answer [Explanation](#)

ANSWER: a - iii, b - ii, c - iv, d - i

Explanation:

No explanation is available for this question!

- 21) What is the level of metrics and indicators that are available to measure the process and quality? a. Optimized
b. Defined
c. Quantitatively Managed
d. Managed

Answer [Explanation](#)

ANSWER: Quantitatively Managed

Explanation:

No explanation is available for this question!

- 22) Software when made for a specific requirement is called, Software Product. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

- 23) Threat is the probability that can attack a specific type and it also occur within a given time. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

- 24) What should they focus on consequences that affect on the Software Risk Impact Assessment? a. Performance

- b. Support and cost
- c. Schedule
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 25) Layout appropriateness according to sears is a worthwhile design metric for human/computer interfaces. a. True
b. False

Answer [Explanation](#)

ANSWER: True

- 1) The process of developing a software product using software engineering principles and methods is referred to as, _____. a. Software myths
b. Scientific Product
c. Software Evolution
d. None of the above

Answer [Explanation](#)

ANSWER: Software Evolution

Explanation:

No explanation is available for this question!

- 2) _____ is a piece of programming code which performs a well defined task. a. Computer Program
b. Computer Software
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Computer Program

Explanation:

No explanation is available for this question!

- 3) Modelling is a representation of the object-oriented classes and the resultant collaborations will allow a system to function.** a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 4) Fan-in is an indication of _____.** a. Objects
b. Inheritance
c. Messages
d. Polymorphism

Answer [Explanation](#)

ANSWER: Inheritance

Explanation:

No explanation is available for this question!

- 5) Application of science, tools and methods to find cost effective solution to the problems is a definition of software engineering.** a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 6) Abbreviate the term OOHMD.** a. Object-Oriented Hypermedia Design Method
b. Objet-Oriented High Design method
c. Objet-Oriented Hypermedia Development Method
d. Object-Oriented Hypermedia Distributed Method

Answer [Explanation](#)

ANSWER: Object-Oriented Hypermedia Design Method

Explanation:

No explanation is available for this question!

- 7) Preventive maintenance is implementing changes in existing or new requirements of user. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

-
- 8) Which software designers tool helps to design the block structure of the software, that may further be broken down into smaller modules using refinement techniques? a. Analysis tools
b. Design tools
c. Configuration management tools
d. Documentation tools

Answer [Explanation](#)

ANSWER: Design tools

Explanation:

No explanation is available for this question!

-
- 9) In software metrics which metrics evaluate the track budget, schedule and human resource? a. Requirement metrics
b. Product metrics
c. Process metrics
d. None of the above

Answer [Explanation](#)

ANSWER: Process metrics

Explanation:

No explanation is available for this question!

-
- 10) Elements of module in functional cohesion are grouped because they all contribute to a single well-defined function. It can also be reused. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 11) Activities and action taken on the data that are represented by Circle or Round-edged Rectangles are called, _____. a. Process
b. Data storage
c. Data flow
d. Entities

Answer [Explanation](#)

ANSWER: Process

Explanation:

No explanation is available for this question!

-
- 12) When multiple modules have read and write access to some global data, it is called, _____.
a. Content coupling
b. Stamp coupling
c. Data coupling
d. Common coupling

Answer [Explanation](#)

ANSWER: Common coupling

Explanation:

No explanation is available for this question!

-
- 13) MTTC stands for _____. a. Mean time to change
b. Modular time to change
c. Mean time to control
d. Modular time to control

Answer [Explanation](#)

ANSWER: Mean time to change

Explanation:

No explanation is available for this question!

-
- 14) Which is the Layered Technology in Bedrock that supports Software Engineering? a. Methods
b. Tools
c. Process
d. Quality Focus

Answer [Explanation](#)

ANSWER: Quality Focus

Explanation:

No explanation is available for this question!

15) What does the physical connections between the elements of the OO design represent? a. Cohesion

- b. Coupling
- c. Both A & B
- d. None of the above

Answer [Explanation](#)

ANSWER: Coupling

Explanation:

No explanation is available for this question!

16) How many characteristics does Value Adjustment Factor(VAF) in Function Point Analysis have? a. 11

- b. 12
- c. 13
- d. 14

Answer [Explanation](#)

ANSWER: 14

Explanation:

No explanation is available for this question!

17) Which of the following techniques is not a White box technique? a. Statement Testing and coverage

- b. Decision Testing and coverage
- c. Condition Coverage
- d. Boundary value analysis

Answer [Explanation](#)

ANSWER: Boundary value analysis

Explanation:

No explanation is available for this question!

- 18) SPICE Means _____. a. Software Process Improvement and Capability Determination.
b. Software Process Improvement and Compatibility Determination.
c. Software Process Invention and Compatibility Determination.
d. Software Process Improvement and Control Determination.

Answer [Explanation](#)

ANSWER: Software Process Improvement and Capability Determination.

Explanation:

No explanation is available for this question!

- 19) The desired level of coupling is _____. a. No coupling
b. Control coupling
c. Common coupling
d. Data coupling

Answer [Explanation](#)

ANSWER: Data coupling

Explanation:

No explanation is available for this question!

- 20) Coupling and cohesion can be represented using a _____. a. cause-effect graph
b. dependence matrix
c. Structure chart
d. SRS

Answer [Explanation](#)

ANSWER: dependence matrix

Explanation:

No explanation is available for this question!

- 21) Changes are made to the system to reduce the future system failure chances is called _____. a. Preventive Maintenance
b. Adaptive Maintenance
c. Corrective Maintenance
d. Perfective Maintenance

Answer [Explanation](#)

ANSWER: Preventive Maintenance

Explanation:

No explanation is available for this question!

-
- 22) The feature of the object oriented paradigm which helps code reuse is _____. a. Object
b. Class
c. Inheritance
d. Aggregation.

Answer [Explanation](#)

ANSWER: Inheritance

Explanation:

No explanation is available for this question!

- 23) The Phases of formal review process are mentioned below. Arrange them in the correct order.

- i. Planning
 - ii. Review Meeting
 - iii. Rework
 - iv. Individual Preparations
 - v. Kick Off
 - vi. Follow Up
-
- a. i,ii,iii,iv,v,vi
 - b. vi,i,ii,iii,iv,v
 - c. i,v,iv,ii,iii,vi
 - d. i,ii,iii,v,iv,vi

Answer [Explanation](#)

ANSWER: i,v,iv,ii,iii,vi

Explanation:

No explanation is available for this question!

- 24) Which Chart is a statistical technique to assess, monitor, and maintain the stability of a process? a. Control Chart
b. Maintenance Chart
c. Bar Charts
d. None of these

Answer [Explanation](#)

ANSWER: Control Chart

Explanation:

No explanation is available for this question!

-
- 25) Cost of Production = Right The First time cost (RTF +-----) . a. Cost of Deployment
b. Cost of Quality
c. Cost of maintenance
d. Cost of Production

Answer [Explanation](#)

ANSWER: Cost of Quality

- 1) In a risk-based approach the risks identified may be used to:

- i. Determine the test technique to be employed
 - ii. Determine the extent of testing to be carried out
 - iii. Prioritize testing in an attempt to find critical defects as early as possible.
 - iv. Determine the cost of the project
-
- a. ii is True; i, iii, iv and v are False
 - b. i,ii,iii are true and iv is false
 - c. ii and iii are True; i, iv are False
 - d. ii, iii and iv are True; i is false

Answer [Explanation](#)

ANSWER: i,ii,iii are true and iv is false

Explanation:

No explanation is available for this question!

-
- 2) Which of the following is not a part of the Test Implementation and Execution Phase?
- a. Creating test suites from the test cases
 - b. Executing test cases either manually or by using test execution tools
 - c. Comparing actual results
 - d. Designing the Tests

Answer [Explanation](#)

ANSWER: Designing the Tests

Explanation:

No explanation is available for this question!

-
- 3) The Test Cases Derived from use cases _____. a. Are most useful in uncovering defects in the process flows during real world use of the system.
b. Are most useful in uncovering defects in the process flows during the testing use of the system.
c. Are most useful in covering the defects in the process flows during real world use of the

system.

- d. Are most useful in covering the defects at the Integration Level.

Answer [Explanation](#)

ANSWER: Are most useful in uncovering defects in the process flows during real world use of the system.

Explanation:

No explanation is available for this question!

- 4) What can static analysis NOT find? a. The use of a variable before it has been defined.
b. Unreachable (“dead”) code.
c. Memory leaks.
d. Array bound violations.

Answer [Explanation](#)

ANSWER: Memory leaks.

Explanation:

No explanation is available for this question!

- 5) Which plan describes how the skills and experience of the project team members will be developed ? a. HR Plan
b. Manager Plan
c. Team Plan
d. Staff Development Plan

Answer [Explanation](#)

ANSWER: Staff Development Plan

Explanation:

No explanation is available for this question!

- 6) Alpha and Beta Testing are forms of _____. a. Acceptance testing
b. Integration testing
c. System Testing
d. Unit testing

Answer [Explanation](#)

ANSWER: Acceptance testing

Explanation:

No explanation is available for this question!

7) The model in which the requirements are implemented by its category is _____.

- . a. Evolutionary Development Model
- b. Waterfall Model
- c. Prototyping
- d. Iterative Enhancement Model

Answer [Explanation](#)

ANSWER: Evolutionary Development Model

Explanation:

No explanation is available for this question!

8) A COCOMO model is _____. a. Common Cost Estimation Model.

- b. Constructive Cost Estimation Model.
- c. Complete Cost Estimation Model.
- d. Comprehensive Cost Estimation Model

Answer [Explanation](#)

ANSWER: Constructive Cost Estimation Model.

Explanation:

No explanation is available for this question!

9) SRD stands for _____. a. Software Requirements Definition

- b. Structured Requirements Definition
- c. Software Requirements Diagram
- d. Structured Requirements Diagram

Answer [Explanation](#)

ANSWER: Structured Requirements Definition

Explanation:

No explanation is available for this question!

10) The tools that support different stages of software development life cycle are called _____.

- . a. CASE Tools
- b. CAME tools
- c. CAQE tools
- d. CARE tools

Answer [Explanation](#)

ANSWER: CASE Tools

Explanation:

No explanation is available for this question!

- 11) Software consists of _____. a. Set of instructions + operating procedures
b. Programs + documentation + operating procedures
c. Programs + hardware manuals
d. Set of programs

Answer [Explanation](#)

ANSWER: Programs + documentation + operating procedures

Explanation:

No explanation is available for this question!

- 12) Which is the most important feature of spiral model? a. Quality management
b. Risk management
c. Performance management
d. Efficiency management

Answer [Explanation](#)

ANSWER: Risk management

Explanation:

No explanation is available for this question!

- 13) If every requirement stated in the Software Requirement Specification (SRS) has only one interpretation, SRS is said to be correct _____. a. Unambiguous
b. Consistent
c. Verifiable
d. None of the above

Answer [Explanation](#)

ANSWER: Unambiguous

Explanation:

No explanation is available for this question!

- 14) Which is not a step of Requirement Engineering? a. Requirements elicitation
b. Requirements analysis

- c. Requirements design
- d. Requirements documentation

Answer [Explanation](#)

ANSWER: Requirements design

Explanation:

No explanation is available for this question!

- 15) FAST stands for _____. a. Functional Application Specification Technique
b. Fast Application Specification Technique
c. Facilitated Application Specification Technique
d. None of the above

Answer [Explanation](#)

ANSWER: Facilitated Application Specification Technique

Explanation:

No explanation is available for this question!

- 16) The level at which the software uses scarce resources is _____. a. Reliability
b. Efficiency
c. Portability
d. All of the above

Answer [Explanation](#)

ANSWER: Efficiency

Explanation:

No explanation is available for this question!

- 17) Modifying the software to match changes in the ever changing environment is called
a. Adaptive maintenance
b. Corrective maintenance
c. Perfective maintenance
d. Preventive maintenance

Answer [Explanation](#)

ANSWER: Adaptive maintenance

Explanation:

No explanation is available for this question!

18) If every requirement can be checked by a cost-effective process, then the SRS is _____

- . a. Verifiable
- b. Traceable
- c. Modifiable
- d. Complete

Answer [Explanation](#)

ANSWER: Verifiable

Explanation:

No explanation is available for this question!

19) Aggregation represents _____ . a. is_a relationship

- b. part_of relationship
- c. composed_of relationship
- d. none of above

Answer [Explanation](#)

ANSWER: composed_of relationship

Explanation:

No explanation is available for this question!

20) If P is risk probability, L is loss, then Risk Exposure (RE) is computed as_____ . a. RE = P/L

- b. RE = P + L
- c. RE = P*L
- d. RE = 2* P *L

Answer [Explanation](#)

ANSWER: RE = P*L

Explanation:

No explanation is available for this question!

21) Number of clauses used in ISO 9001 to specify quality system requirements are _____ . a. 15

- b. 20
- c. 25
- d. 28

Answer [Explanation](#)

ANSWER: 20

Explanation:

No explanation is available for this question!

- 22) ER model shows the _____. a. Static view
b. Functional view
c. Dynamic view
d. All the above

Answer [Explanation](#)

ANSWER: Static view

Explanation:

No explanation is available for this question!

- 23) IEEE 830-1993 is a IEEE recommended standard for _____. a. Software Requirement Specification
b. Software design
c. Testing
d. Both (A) and (B)

Answer [Explanation](#)

ANSWER: Software Requirement Specification

Explanation:

No explanation is available for this question!

- 24) One of the fault base testing techniques is _____. a. Unit Testing
b. Beta Testing
c. Stress Testing
d. Mutation Testing

Answer [Explanation](#)

ANSWER: Mutation Testing

Explanation:

No explanation is available for this question!

- 25) If the objects focus on the problem domain, then we are concerned with _____. a. Object Oriented Analysis
b. Object Oriented Design
c. Object Oriented Analysis and Design
d. None of the above

Answer [Explanation](#)

ANSWER: Object Oriented Analysis

1

. Which question no longer concerns the modern software engineer?

- Why does computer hardware cost so much?
- Why does software take a long time to finish?
- Why does it cost so much to develop a piece of software?
- Why can't software errors be removed from products prior to delivery?

A. Why does computer hardware cost so much?

Explanation : These, and many other questions, are a manifestation of the concern about software and the manner in which it is developed—a concern that has lead to the adoption of software engineering practice.

- Why does it take so long to get software finished?
- Why are development costs so high?
- Why can't we find all errors before we give the software to our customers?
- Why do we spend so much time and effort maintaining existing programs?
- Why do we continue to have difficulty in measuring progress as software is being developed and maintained?

2

. Software is a product and can be manufactured using the same technologies used for other engineering artifacts

- True
- False

B. False

Explanation : The characteristics of software that make it different from other things that human beings build. Software is a logical rather than a physical system element. Therefore, software has characteristics that are considerably different than those of hardware.

3

. Software deteriorates rather than wears out because

- Software suffers from exposure to hostile environments
- Defects are more likely to arise after software has been used often
- Multiple change requests introduce errors in component interactions
- Software spare parts become harder to order

C. Multiple change requests introduce errors in component interactions

Explanation : During its life, software will undergo change. As changes are made, it is likely that errors will be introduced, causing the failure rate curve to spike that means the software is deteriorating due to change.

4

- . WebApps are a mixture of print publishing and software development, making their development outside the realm of software engineering practice.

5

- . There are no real differences between creating WebApps and MobileApps

6

- . In its simplest form an external computing device may access cloud data services using a web browser.

7

- . Product line software developments depends the reuse of existing software components to provide software engineering leverage.

8

- . Which of the items listed below is not one of the software engineering layers?

- Process
- Manufacturing
- Methods
- Tools

B. Manufacturing

Explanation : Software engineering is a layered technology

1. any engineering approach (including software engineering) must rest on an organizational commitment to **quality**. Total quality management, Six Sigma.
2. The foundation for software engineering is the **process** layer. The software engineering process is the glue that holds the technology layers together and enables rational and timely development of computer software.
3. Software engineering **methods** provide the technical how-to's for building software. Methods encompass a broad array of tasks that include communication, requirements analysis, design modeling, program construction, testing, and support.
4. Software engineering **tools** provide automated or semi automated support for the process and the methods

9

. Software engineering umbrella activities are only applied during the initial phases of software development projects.

- True
- False

B. False

Explanation : The process framework encompasses a set of umbrella activities that are applicable across the entire software process.

10

. Which of these are the 5 generic software engineering framework activities?

- communication, planning, modeling, construction, deployment
- communication, risk management, measurement, production, reviewing
- analysis, designing, programming, debugging, maintenance
- analysis, planning, designing, programming, testing

A. communication, planning, modeling, construction, deployment

Explanation : A generic process framework for software engineering encompasses five activities:
1.Communication 2.Planning. 3.Modeling 4.Construction 5.Deployment

11

. Planning ahead for software reuse reduce the cost and increases the value of the systems into which they are incorporated

- True
- False

A. True

Explanation : Plan Ahead for Reuse: Reuse saves time and effort. Achieving a high level of reuse is arguably the hardest goal to accomplish in developing a software system. The reuse of code and designs has been proclaimed as a major benefit of using object-oriented technologies. To leverage the reuse possibilities that object-oriented [or conventional] programming provides requires forethought and planning.

12

. The essence of software engineering practice might be described as understand the problem, plan a solution, carry out the plan, and examine the result for accuracy.

- True
- False

A. True

Explanation : The essence of software engineering practice:

1. Understand the problem (communication and analysis).
2. Plan a solution (modeling and software design)
3. Carry out the plan (code generation)
4. Examine the result for accuracy (testing and quality assurance)

13

. In agile process models the only deliverable work product is the working program.

- True
- False

B. False

Explanation : Reality: A working program is only one part of a software configuration that includes many elements. A variety of work products (e.g., models, documents, plans) provide a foundation for successful engineering and, more important, guidance for software support.

14

. A most software development projects are initiated to try to meet some business need.

- True
- False

A. True

Explanation : Every software project is precipitated by some business need—the need to correct a defect in an existing application; the need to adapt a “legacy system” to a changing business environment; the need to extend the functions and features of an existing application; or the need to create a new product, service, or system.

15

. In general software only succeeds if its behavior is consistent with the objectives of its designers.

- True
- False

B. False

Explanation : The market will accept the product only if the software embedded within it properly meets the customer's (as yet unstated) needs.

16

. Today the increased power of the personal computer has brought about an abandonment of the practice of team development of software.

17

. Most software continues to be custom built because

- Component reuse is common in the software world.
- Reusable components are too expensive to use.
- Software is easier to build without using someone else's components.
- Off-the-shelf software components are unavailable in many application domains.

D. Off-the-shelf software components are unavailable in many application domains.

18

. The nature of software applications can be characterized by their information

- Complexity
- Content
- Determinacy
- both b and c

D. both b and c

19

. Modern software applications are so complex that it is hard to develop mutually exclusive category names.

Ans: TRUE

20

. The so called "new economy" that gripped commerce and finance during the 1990s died and no longer influences decisions made by businesses and software engineers.

ANS: FALSE

21

. The functionality of most computer systems does not need to be enhanced the lifetime of the system.

ANS: FALSE

22

. Change cannot be easily accommodated in most software systems, unless the system was designed with change in mind.

ANS: TRUE

1

. Process models are described as agile because they

- Eliminate the need for cumbersome documentation
- Emphasize maneuverability and adaptability
- Do not waste development time on planning activities
- Make extensive use of prototype creation

B. Emphasize maneuverability and adaptability

2

. Which of these terms are level names in the Capability Maturity Model?

- Performed
- Repeated
- Reused
- Optimized
- both a and d

E. both a and d

3

. The best software process model is one that has been created by the people who will actually be doing the work.

ANS: TRUE

4

. Which of the following are recognized process flow types?

- Concurrent process flow
- Iterative process flow
- Linear process flow
- Spiral process flow
- both b and c

E. both b and c

5

. The communication activity is best handled for small projects using six distinct actions (inception, elicitation, elaboration, negotiation, specification, validation).

ANS: FALSE

6

. A good software development team always uses the same task set for every project to insure high quality work products

ANS: FALSE

7

. Software processes can be constructed out of pre-existing software patterns to best meet the needs of a software project

ANS: TRUE

8

. Which of these are standards for assessing software processes?

- SEI
- SPICE
- ISO 9000
- ISO 9001
- both b and d

E. both b and d

1

. The rapid application development model is

- Another name for component-based development
- A useful approach when a customer cannot define requirements clearly.
- A high speed adaptation of the linear sequential model.
- All of the above.

C. A high speed adaptation of the linear sequential model.

2

. In the Unified Process model requirements are determined iteratively and may span more than one phase of the process.

- True
- False

3

. The waterfall model of software development is

- A reasonable approach when requirements are well defined.
- A good approach when a working program is required quickly.
- The best approach to use for projects with large development teams
- An old fashioned model that is rarely used any more

A. A reasonable approach when requirements are well defined.

4

. The incremental model of software development is

- A reasonable approach when requirements are well defined.
- A good approach when a working core product is required quickly.
- The best approach to use for projects with large development teams
- A revolutionary model that is not used for commercial products.

B. A good approach when a working core product is required quickly.

5

. Evolutionary software process models

- Are iterative in nature
- Can easily accommodate product requirements changes
- Do not generally produce throwaway systems
- All of the above.

D. All of the above.

6

. The prototyping model of software development is

- A reasonable approach when requirements are well defined.
- A useful approach when a customer cannot define requirements clearly.
- The best approach to use for projects with large development teams.
- A risky model that rarely produces a meaningful product.

B. A useful approach when a customer cannot define requirements clearly.

7

. The spiral model of software development

- Ends with the delivery of the software product.
- Is more chaotic than the incremental model.
- Includes project risks evaluation during each iteration
- All of the above

C. Includes project risks evaluation during each iteration

8

. The concurrent development model is

- Another name for concurrent engineering.

- Defines events that trigger engineering activity state transitions.
- Only used for development of parallel or distributed systems.
- Used whenever a large number of change requests are anticipated.
- Both a and b

E. Both a and b

9

. The component-based development model is

- Only appropriate for computer hardware design
- Not able to support the development of reusable components.
- Dependent on object technologies for support.
- Not cost effective by known quantifiable software metrics

C. Dependent on object technologies for support.

10

. The formal methods model of software development makes use of mathematical methods to

- Define the specification for computer-based systems
- Develop defect free computer-based systems.
- Verify the correctness of computer-based systems.
- All of the above.

D. All of the above.

11

. Which of these is not one of the phase names defined by the Unified Process model for software development?

- Inception phase
- Elaboration phase
- Construction phase
- Validation phase

D. Validation phase

12

. Which of these is not a characteristic of Personal Software Process?

- Emphasizes personal measurement of work product.
- Practitioner requires careful supervision by the project manager.
- Individual practitioner is responsible for estimating and scheduling.
- Practitioner is empowered to control quality of software work products.

B. Practitioner requires careful supervision by the project manager.

13

. Which of these are objectives of Team Software Process?

- Accelerate software process improvement
- Allow better time management by highly trained professionals
- Build self-directed software teams
- Show managers how to reduce costs and sustain quality
- Both b and c

E. Both b and c

14

. Process technology tools allow software organizations to compress schedules by skipping unimportant activities.

ANS: FALSE

15

. It is generally accepted that one cannot have weak software processes and create high quality end products.

ANS: TRUE

1

. It is not possible to build software that meets the customers' needs today and exhibits the quality characteristics that will enable it to be extended tomorrow.

- True
- False

2

. Which of the following traits need to exist among the members of an agile software team?

- Competence
- Decision-making ability
- Mutual trust and respect
- All of the above

D. All of the above

3

. What are the three framework activities for the Adaptive Software Development (ASD) process model?

- Analysis, design, coding
- Feasibility study, functional model iteration, implementation
- Requirements gathering, adaptive cycle planning, iterative development
- Speculation, collaboration, learning

D. Speculation, collaboration, learning

4

. Agility is nothing more than the ability of a project team to respond rapidly to change

ANS: FALSE

5

. Which of the following is not necessary to apply agility to a software process?

- Eliminate the use of project planning and testing
- Only essential work products are produced
- Process allows team to streamline tasks
- Uses incremental product delivery strategy

A. Eliminate the use of project planning and testing

6

. How do you create agile processes to manage unpredictability?

- Requirements gathering must be conducted very carefully
- Risk analysis must be conducted before planning takes place
- Software increments must be delivered in short time periods
- Software processes must adapt to changes incrementally
- Both c and d

E. Both c and d

7

. In agile software processes the highest priorities is to satisfy the customer through early and continuous delivery of valuable software.

- True
- False

8

. In agile development it is more important to build software that meets the customers' needs today than worry about features that might be needed in the future.

- True
- False

9

. What are the four framework activities found in the Extreme Programming (XP) process model?

- analysis, design, coding, testing
- planning, analysis, design, coding
- planning, analysis, coding, testing
- planning, design, coding, testing

D. planning, design, coding, testing

10

. All agile process models conform to a greater or lesser degree to the principles stated in the “Manifesto for Agile Software Development”.

- True
- False

11

. Which is not one of the key questions that is answered by each team member at each daily Scrum meeting?

- What did you do since the last meeting?
- What obstacles are you creating?
- What is the cause of the problem you are encountering?
- What do you plan to accomplish be the next team meeting?

B. What obstacles are you creating?

12

. The Dynamic Systems Development Method (DSDM) suggests a philosophy that is based on the Pareto principle (80% of the application can be delivered in 20% of the time required to build the complete application).

- True
- False

13

. Agile Modeling (AM) provides guidance to practitioner during which of these software tasks?

- Analysis
- Design
- Coding
- Testing

- Both a and b

E. Both a and b

14

. Agile Unified Process uses the classic UP phased activities (inception, elaboration, construction, transition) to help the team visualize the overall process flow

- True
- False

1

. Human aspects of software engineering are not relevant in today's agile process models.

ANS: FALSE

2

. Which of the following is not an important trait of an effective software engineer?

- Attentive to detail
- Brutally honest
- Follows process rule dogmatically
- Resilient under pressure

C. Follows process rule dogmatically

3

. Group communication and collaboration are as important as the technical skills of an individual team member to the success of a team.

ANS: TRUE

4

. Teams with diversity in the individual team member skill sets tend to be more effective than teams without this diversity

ANS: TRUE

5

. Which of the following can contribute to team toxicity?

- Frenzied work atmosphere
- Inadequate budget

- Poorly coordinated software process
- Unclear definition of team roles
- a, b, d

E. a, b, d

6

. Software engineering team structure is independent of problem complexity and size of the expected software products.

ANS: FALSE

7

. Agile teams are allowed to self-organize and make their own technical decisions.

ANS: TRUE

8

. In XP a metaphor is used as a device to facilitate communications among customers, team members, and managers?

ANS: TRUE

9

. Using an established social media platform negates the need to be concerned about privacy or security.

ANS: FALSE

10

. Use of cloud services can speed up information sharing among software team members?

ANS: TRUE

11

. In collaborative development environments, metrics are used to reward and punish team members.

ANS: FALSE

12

. Which of these factors complicate decision-making by global software teams

- Complexity of problem
- Different views of the problem

- Law of unintended consequences
- Risk associated with decision
- All of the above.

E. All of the above.

1

. Software engineers collaborate with customers to define which of the following?

- Customer visible usage scenarios
- Important software features
- System inputs and outputs
- All of the above

D. All of the above

2

. Everyone on the software team should be involved in the planning activity so that we can

- reduce the granularity of the plan
- analyze requirements in depth
- get all team members to "sign up" to the plan
- begin design

C. get all team members to "sign up" to the plan

3

. What role(s) do user stories play in agile planning?

- Define useful software features and functions delivered to end-users
- Determine a schedule used to deliver each software increment
- Provide a substitute to performing detailed scheduling of activities
- Used to estimate the effort required build the current increment
- both a and d

D. Used to estimate the effort required build the current increment

4

. Which of the following activities is not one of the four things that need to be accomplished by the generic planning task set?

- Develop overall project strategy
- Identify the functionality to deliver in each software increment
- Create a detailed schedule for the complete software project
- Devise a means of tracking progress on a regular basis

C. Create a detailed schedule for the complete software project

5

. Analysis models depict software in which three representations?

- architecture, interface, component
- cost, risk, schedule
- information, function, behavior
- None of the above

C. information, function, behavior

6

. The customer can directly observe both the difference between the internal quality of a design and its external quality?

ANS: FALSE

7

. Teams using agile software practices never create models.

ANS: FALSE

8

. Many of the tasks from the generic task sets for analysis modeling and design can be conducted in parallel with one another.

ANS: TRUE

9

. A successful test is one that discovers at least one as-yet undiscovered error.

ANS: TRUE

10

. Which of the following are tasks in the generic task set for construction?

- Build a software component
- Create a user interface
- Unit test the component
- Assess the quality of the component
- both a and c

E. both a and c

11

. Software engineering principles have about a three year half-life

ANS: FALSE

12

. Which of the following is not one of core principles of software engineering practice?

- All design should be as simple as possible, but no simpler
- A software system exists only to provide value to its users.
- Pareto principle (20% of any product requires 80% of the effort).
- Remember that you produce others will consume

C. Pareto principle (20% of any product requires 80% of the effort).

13

. Every communication activity should have a facilitator to make sure that the customer is not allowed to dominate the proceedings

ANS: FALSE

14

. The agile view of iterative customer communication and collaboration is applicable to all software engineering practice.

ANS: TRUE

15

. One reason to involve everyone on the software team in the planning activity is to

- adjust the granularity of the plan
- control feature creep
- get all team members to “sign up” to the plan
- understand the problem scope

C. get all team members to “sign up” to the plan

16

. Project plans should not be changed once they are adopted by a team

ANS:FALSE

17

. Requirements models depict software in which three domains?

- architecture, interface, component
- cost, risk, schedule
- information, function, behavior

- None of the above

C. information, function, behavior

18

. The design model should be traceable to the requirements model?

ANS: TRUE

19

. Teams using agile software practices do not generally create models

ANS: FALSE

20

. Which of the following is not one of the principles of good coding?

- Create unit tests before you begin coding
- Create unit tests before you begin coding
- Refactor the code after you complete the first coding pass
- Write self-documenting code, not program documentation

C. Refactor the code after you complete the first coding pass

21

. A successful test is ones that discovers at least one as-yet undiscovered error

ANS: TRUE

22

. Which of the following are valid reasons for collecting customer feedback concerning delivered software?

- Allows developers to make changes to the delivered increment
- Delivery schedule can be revised to reflect changes
- Developers can identify changes to incorporate into next increment
- All of the above

D. All of the above

23

. Larger programming teams are always more productive than smaller teams

ANS: FALSE

1

. Software engineers do not need to consider hardware when designing a computer-based system.

ANS: FALSE

2

. Which of the following can be elements of computer-based systems?

- documentation
- software
- people
- hardware
- all of the above

E. all of the above

3

. The system engineering process usually begins with the

- detailed view
- domain view
- element view
- world view

D. world view

4

. To construct a system model the engineer should consider which of the following restraining factors?

- assumptions
- budget
- constraints
- schedule
- both a and c

E. both a and c

5

. By following modern system engineering practices simulation of reactive systems is no longer necessary.

ANS: FALSE

6

. During business process engineering, three different architectures are examined.

- applications, data, technology infrastructure
- communications, organization, financial infrastructure
- network, database, reporting structure
- systems, requirements, data structure

A. applications, data, technology infrastructure

7

. Which elements of business processing engineering are the responsibilities of the software engineer?

- business area analysis
- business system design
- construction and integration
- information strategy planning
- both b and c

E. both b and c

8

. The goal of product engineering is to translate the customer's desire for a set of defined capabilities into a working product.

ANS: TRUE

9

. The architecture components for product engineering are

- data, hardware, software, people
- data, documentation, hardware, software
- data, hardware, software, procedures
- documentation, hardware, people, procedures

A. data, hardware, software, people

10

. The top level of the hierarchical model of a system is known as the

ANS: **SCD**

11

. The system model template contains which of the following elements

- input

- output
- user interface
- all of the above

D. all of the above

12

. UML notations that can be used to model the hardware and software elements of a system are

- Activity diagrams
- Class diagrams
- Deployment diagrams
- Use-case diagrams
- a, b, and c

E. a, b, and c

1

. It is relatively common for different customers to propose conflicting requirements, each arguing that his or her version is the right one.

ANS: TRUE

2

. The system specification describes the

- Function, performance and constraints of a computer-based system
- implementation of each allocated system
- element software architecture
- time required for system simulation

A. Function, performance and constraints of a computer-based system

3

. The best way to conduct a requirements validation review is to

- examine the system model for errors
- have the customer look over the requirements
- send them to the design team and see if they have any concerns
- use a checklist of questions to examine each requirement

D. use a checklist of questions to examine each requirement

4

. The use of traceability tables helps to

- debug programs following the detection of run-time errors
- determine the performance of algorithm implementations
- identify, control, and track requirements changes
- none of the above

C. identify, control, and track requirements changes

5

. The job of the requirements engineer is to categorize all stakeholder information in a way that allows decision makers to choose an internally consistent set of requirements.

ANS:TRUE

6

. The nature of collaboration is such that all system requirements are defined by consensus of a committee of customers and developers.

ANS: FALSE

7

. Which of following is not a UML diagram used creating a system analysis model?

- activity diagram
- class diagram
- dataflow diagram
- state diagram

C. dataflow diagram

8

. Requirements engineering is a generic process that does not vary from one software project to another.

ANS: TRUE

9

. During project inception the intent of the tasks are to determine

- basic problem understanding
- nature of the solution needed
- people who want a solution
- none of the above
- a, b, c

E. a, b, c

10

. Three things that make requirements elicitation difficult are problems of

- budgeting
- scope
- understanding
- volatility
- b, c, d

E. b, c, d

11

. A stakeholder is anyone who will purchase the completed software system under development

ANS: FALSE

12

. It is relatively common for different customers to propose conflicting requirements, each arguing that his or her version is the right one.

ANS: TRUE

13

. Which of the following is not one of the context-free questions that would be used during project inception?

- What will be the economic benefit from a good solution?
- Who is behind the request for work?
- Who will pay for the work?
- Who will use the solution?

C. Who will pay for the work?

14

. Non-functional requirements can be safely ignored in modern software development projects

ANS: FALSE

15

. In collaborative requirements gathering the facilitator

- arranges the meeting place
- can not be a customer
- controls the meeting
- must be an outsider

C. controls the meeting

16

. Which of the following is not one of the requirement classifications used in Quality Function Deployment (QFD)?

- exciting
- expected
- mandatory
- normal

C. mandatory

17

. The work products produced during requirement elicitation will vary depending on the

- size of the budget
- size of the product being built.
- software process being used.
- stakeholders needs.
- both a and b

E. both a and b

18

. User stories are complete descriptions the user needs and include the non-functional requirements for a software increment.

ANS: TRUE

19

. Developers and customers create use-cases to help the software team understand how different classes of end-users will use functions.

ANS: TRUE

20

. Use-case actors are always people, never system devices.

ANS: FALSE

21

. The result of the requirements engineering task is an analysis model that defines which of the following problem domain(s)?

- information
- functional
- behavioral

- all of the above

D. all of the above

22

. Analysis patterns facilitate the transformation of the analysis model into a design model by suggesting reliable solutions to common problems.

ANS: TRUE

23

. In agile process models requirements engineering and design activities are interleaved.

ANS: TRUE

24

. In win-win negotiation, the customer's needs are met even though the developer's need may not be.

ANS: FALSE

25

. In requirements validation the requirements model is reviewed to ensure its technical feasibility

ANS: FALSE

26

. The most common reason for software project failure is lack of functionality

ANS: FALSE

1

. The data dictionary contains descriptions of each software

- control item
- data object
- diagram
- notation
- both a and b

E. both a and b

2

. Which of these is not an element of an object-oriented analysis model?

- Behavioral elements
- Class-based elements
- Data elements
- Scenario-based elements

C. Data elements

3

. In analysis models the only data objects that need representation are those that will be implemented using software classes.

ANS: FALSE

4

. The values that are assigned to an object's attributes make that object unique.

ANS: TRUE

5

. The relationships shown in a data model must be classified to show their

- cardinality
- directionality
- modality
- probability
- both a and c

E. both a and c

6

. The entity relationship diagram

- depicts relationships between data objects
- depicts functions that transform the data flow
- indicates how data are transformed by the system
- indicates system reactions to external events

A. depicts relationships between data objects

7

. A generalized description of a collection of similar objects is a

- class
- instance
- subclass
- super class

A. class

8

. Operations are object procedures that are invoked when an object receives a message

ANS: TRUE

9

. The data flow diagram

- depicts relationships between data objects
- depicts functions that transform the data flow
- indicates how data are transformed by the system
- indicates system reactions to external events
- both b and c

E. both b and c

10

. Attributes cannot be defined for a class until design has been completed.

ANS: FALSE

11

. Events occur whenever a(n)

- actor and the OO system exchange information
- class operation is invoked
- messages are passed between objects
- all of the above

A. actor and the OO system exchange information

12

. The state diagram

- depicts relationships between data objects
- depicts functions that transform the data flow
- indicates how data are transformed by the system
- indicates system reactions to external events

D. indicates system reactions to external events

1

. One or more attributes of a data object must be defined as a key to allow the location of an instance of the data object.

ANS: TRUE

2

. The entity relationship diagram

- Depicts relationships between data objects
- Depicts functions that transform the data flow
- Indicates how data are transformed by the system
- Indicates system reactions to external events

A. Depicts relationships between data objects

3

. Which of the following should be considered as candidate objects in a problem space?

- Events
- People
- Structures
- all of the above

D. all of the above

4

. Attributes are chosen for an object by examining the problem statement and identifying the entities that appear to be related

ANS: FALSE

5

. Which of the following is not one of the broad categories used to classify operations?

- Computation
- Data manipulation
- Event monitors
- Transformers

D. Transformers

6

. Which of the following items does not appear on a CRC card?

- Class collaborators
- Class name

- Class reliability
- Class responsibilities

C. Class reliability

7

. Class responsibilities are defined by

- Its attributes only
- its collaborators
- its operations only
- Both its attributes and operations

D. Both its attributes and operations

8

. An analysis package involves the categorization of analysis model elements into useful groupings.

ANS: TRUE

9

. Which of these is not an element of a requirements model?

- Behavioral elements
- Class-based elements
- Data elements
- Scenario-based elements

C. Data elements

10

. Which of the following is not an objective for building a requirements model?

- define set of software requirements that can be validated
- describe customer requirements
- develop an abbreviated solution for the problem
- establish basis for software design

C. develop an abbreviated solution for the problem

11

. Object-oriented domain analysis is concerned with the identification and specification of reusable capabilities within an application domain.

ANS: TRUE

12

. In structured analysis models focus on the structure of the classes defined for a system along with their interactions.

ANS: FALSE

13

. Creation and refinement of use cases is an important part of scenario-based modeling.

ANS: TRUE

14

. It is important to consider alternative actor interactions when creating a preliminary use case.

ANS: FALSE

15

. Brainstorming is one technique that may be used to derive a complete set of use case exceptions.

ANS: TRUE

16

. In many cases there is no need to create a graphical representation of a usage scenario.

ANS: TRUE

17

. UML activity diagrams are useful in representing which analysis model elements?

- Behavioral elements
- Class-based elements
- Flow-based elements
- Scenario-based elements

D. Scenario-based elements

18

. UML swimmlane diagrams allow you to represent the flow of activities by showing the actors having responsibility for creating each data element.

ANS: FALSE

1

. Which of the following should be considered as candidate objects in a problem space?

- events
- people
- structures
- all of the above

D. all of the above

2

. In the grammatical parse of a processing narrative the nouns become object candidates in the analysis model.

ANS:TRUE

3

. Attributes are chosen for an object by examining the problem statement and identifying the entities that appear to be related.

ANS: FALSE

4

. Which of the following is not one of the broad categories used to classify operations?

- computation
- data manipulation
- event monitors
- transformers

D. transformers

5

. Collaborators in CRC modeling are those classes needed to fulfill a responsibility on another card.

ANS: TRUE

6

. Which of the following items does not appear on a CRC card?

- class collaborators
- class name
- class reliability
- class responsibilities

C. class reliability

7

. Class responsibilities are defined by

- its attributes only
- its collaborators
- its operations only
- both its attributes and operations

D. both its attributes and operations

8

. A stereotype is the basis for class reuse in UML modeling.

ANS: FALSE

9

. An analysis package involves the categorization of analysis model elements into useful groupings.

ANS: TRUE

1

. The data flow diagram

- Depicts relationships between data objects
- Depicts functions that transform the data flow
- Indicates how data are transformed by the system
- Indicates system reactions to external events
- Both b and c

E. Both b and c

2

. Control flow diagrams are

- Needed to model event driven systems
- Required for all systems
- Used in place of data flow diagrams.
- Used to represent system behavior.

A. Needed to model event driven systems

3

. The control specification represents the system behavior using UML sequence and state diagrams

ANS: TRUE

4

. The data flow diagram must be augmented by min-spec that can serve as a guide the design of the software component that will implement the process

ANS: TRUE

5

. The behavior modeling is only used in the analysis of real-time systems.

ANS: FALSE

6

. For purposes of behavior modeling an event occurs whenever

- a state and process exchange information.
- the system an actor exchange information.
- two actors exchange information.
- two objects exchange information.

B. the system an actor exchange information.

7

. For purposes of behavior modeling a state is any

- consumer or producer of data
- data object hierarchy
- observable mode of behavior.
- well defined process.

C. observable mode of behavior.

8

. The state transition diagram

- depicts relationships between data objects
- depicts functions that transform the data flow
- indicates how data are transformed by the system
- indicates system reactions to external events

D. indicates system reactions to external events

9

. The UML sequence diagram shows the order in which system events are processed.

ANS: FALSE

10

. Analysis patterns are discovered, they are not explicitly created.

ANS: TRUE

11

. It is not possible to justify the time required for mobile app requirements analysis.

ANS: FALSE

12

. Which is not one of the analysis activities that is used to create a complete analysis model?

- Configuration analysis
- Content analysis
- Functional analysis
- Market analysis

D. Market analysis

13

. Content objects are extracted from use cases by examining the scenario description for direct or indirect content references

ANS: TRUE

14

. What are the elements of a WebApp interaction model?

- activity diagrams, sequence diagrams, state diagrams, interface prototype
- activity diagrams, collaboration diagrams, sequence diagrams, state diagrams
- use-cases, sequence diagrams, state diagrams, interface prototype
- use-cases, sequence diagrams, state diagrams, sequence diagrams

C. use-cases, sequence diagrams, state diagrams, interface prototype

15

. UML activity diagrams can be used to represent the user observable functionality delivered by the WebApp as well as the operations contained in each analysis class.

ANS: TRUE

16

. Configuration analysis focuses on the architecture of the user's web browsing environment.

ANS: FALSE

1

. Which of the following are areas of concern in the design model?

- architecture
- data
- interfaces
- project scope
- a, b, c

E. a, b, c

2

. The importance of software design can be summarized in a single word

- accuracy
- complexity
- efficiency
- quality

D. quality

3

. Which of these are characteristics of a good design?

- exhibits strong coupling between its modules
- implements all requirements in the analysis model
- includes test cases for all components
- provides a complete picture of the software
- b and d

E. b and d

4

. Which of the following is not a characteristic common to all design methods?

- configuration management
- functional component representation
- quality assessment guidelines

- refinement heuristics

A. configuration management

5

. What types of abstraction are used in software design?

- control
- data
- environmental
- procedural
- a, b, d

E. a, b, d

6

. Which of the following can be used to represent the architectural design of a piece of software?

- Dynamic models
- Functional models
- Structural models
- All of the above

D. All of the above

7

. Design patterns are not applicable to the design of object-oriented software?

ANS: FALSE

8

. Since modularity is an important design goal it is not possible to have too many modules in a proposed design.

ANS: FALSE

9

. Information hiding makes program maintenance easier by hiding data and procedure from unaffected parts of the program

ANS: TRUE

10

. Cohesion is a qualitative indication of the degree to which a module

- can be written more compactly
- focuses on just one thing.
- is able to complete its function in a timely manner.
- is connected to other modules and the outside world.

B. focuses on just one thing.

11

. Coupling is a qualitative indication of the degree to which a module

- can be written more compactly
- focuses on just one thing.
- is able to complete its function in a timely manner
- is connected to other modules and the outside world.

D. is connected to other modules and the outside world.

12

. When using structured design methodologies the process of stepwise refinement is unnecessary.

ANS: FALSE

13

. Software designs are refactored to allow the creation of software that is easier to integrate, easier to test, and easier to maintain.

ANS: TRUE

14

. Which of the following is not one of the five design class types

- Business domain classes
- Entity classes
- Process classes
- User interface classes

B. Entity classes

15

. Which design model elements are used to depict a model of information represented from the user's view?

- Architectural design elements
- Component-level design elements
- Data design elements

- Interface design elements

C. Data design elements

16

. Which design is equivalent to the floor plan of a house?

- Architectural design
- Component-level design
- Data design
- Interface design

A. Architectural design

17

. Which design model is equivalent to the detailed drawings of the access points and external utilities for a house?

- Architectural design
- Component-level design
- Data design
- Interface design

D. Interface design

18

. Which design model is equivalent to a set of detailed drawings for each room in a house?

- Architectural design
- Component-level design
- Data design
- Interface design

B. Component-level design

19

. The deployment design elements specify the build order for the software components.

ANS: FALSE

1

. The best representation of system architecture is an operational software prototype

ANS: FALSE

2

. The architectural representations can be an enabler for communication among project stakeholders

ANS: TRUE

3

. An architectural description is often documented using an architecture template.

ANS: FALSE

4

. An architectural decision is often documented using an architecture decision description template.

ANS: TRUE

5

. An architectural genre will often dictate the architectural approach that may be used for the structure to be built.

ANS: TRUE

6

. An architectural style encompasses which of the following elements?

- constraints
- set of components
- semantic models
- syntactic models
- a, b, c

E. a, b, c

7

. To determine the architectural style or combination of styles that best fits the proposed system, requirements engineering is used to uncover

- algorithmic complexity
- characteristics and constraints
- control and data
- design patterns

B. characteristics and constraints

8

. Before an architectural pattern can be chosen for use in a specific system it must have a code implementation to facilitate its reuse.

ANS: FALSE

9

. The criteria used to assess the quality of an architectural design should be based on system

- accessibility
- control
- data
- implementation
- b and c

E. b and c

10

. Software architectural considerations often interact with each other and moderate each other.

ANS: TRUE

11

. Developer notes are not a reliable means of documenting architectural decisions

ANS: FALSE

12

. During process of modeling the system in context, systems that interact with the target system are represented as

- Peer-level systems
- Subordinate systems
- Superordinate systems
- Working systems
- a, b, c

E. a, b, c

13

. Once selected, archetypes always need to be refined further as architectural design proceeds

ANS: TRUE

14

. Which of the following is not an example of infrastructure components that may need to be integrated into the software architecture?

- Communications components
- Database components
- Interface components
- Memory management components

C. Interface components

15

. In the architecture trade-off analysis method the architectural style should be described using the

- data flow view
- module view
- process view
- user view
- a, b, c

E. a, b, c

16

. A useful technique for evaluating the overall complexity of a proposed architecture is to look at the component

- cohesion
- flow dependencies
- sharing dependencies
- size
- b and c

E. b and c

17

. Software architects need to create consensus among software team members and other stakeholders.

ANS: TRUE

18

. Pattern-based architectural reviews can be useful for project with short build cycles and volatile requirements.

ANS: TRUE

19

. Static architectural conformance checking assesses whether or not the source code matches the user visible requirements

ANS: FALSE

20

. Architectural design has no role in agile software process models.

ANS: FALSE

1

. In the context of object-oriented software engineering a component contains

- attributes and operations
- instances of each class
- roles for each actor (device or user)
- set of collaborating classes

D. set of collaborating classes

2

. In traditional software engineering modules must serve in which of the following roles?

- Control component
- Infrastructure component
- Problem domain component
- All of the above

D. All of the above

3

. Software engineers always need to cerate components from scratch in order to meet customer expectations fully.

ANS: FALSE

4

. Which of the following is not one of the four principles used to guide component-level design?

- Dependency Inversion Principle
- Interface Segregation Principle
- Open-Closed Principle
- Parsimonious Complexity Principle

D. Parsimonious Complexity Principle

5

. The use of stereotypes can help identify the nature of components at the detailed design level.

ANS: TRUE

6

. Classes and components that exhibit functional, layer, or communicational cohesion are relatively easy to implement, test, and maintain.

ANS: TRUE

7

. Software coupling is a sign of poor architectural design and can always be avoided in every system.

ANS: FALSE

8

. In component design elaboration requires which of the following elements to be describe in detail?

- Algorithms
- Attributes
- Interfaces
- Operations
- b, c, d

E. b, c, d

9

. In component-level design persistent data sources refer to

- Component libraries
- Databases
- Files
- All of the above
- b and c

E. b and c

10

. WebApp content design at the component level focuses on content objects and the manner in which they interact.

ANS: FALSE

11

. A WebApp functional architecture describes the key functional components and how they interact with each other.

ANS: TRUE

12

. Component-level design for mobile apps is not any different from component-based design for Web apps.

ANS: TRUE

13

. Which of these constructs is used in structured programming?

- branching
- condition
- repetition
- sequence
- b, c, d

E. b, c, d

14

. In component-based software engineering, the development team examines the requirements to see which are amenable to composition, rather than construction, before beginning detailed design tasks.

ANS: TRUE

15

. Which of the following is not one of the major activities of domain engineering?

- analysis
- construction
- dissemination
- validation

D. validation

16

. Which of the following factors would not be considered during component qualification?

- application programming interface (API)
- development and integration tools required
- exception handling
- testing equipment required

D. testing equipment required

17

. Which is the following is a technique used for component wrapping?

- black-box wrapping
- clear-box wrapping
- gray-box wrapping
- white-box wrapping

B. clear-box wrapping

18

. Which of the following is not one of the issues that form a basis for design for reuse?

- object-oriented programming
- program templates
- standard data
- standard interface protocols

A. object-oriented programming

19

. In a reuse environment, library queries are often characterized using the _____ element of the 3C Model.

- concept
- content
- context
- all of the above

D. all of the above

20

. Which of these is a graphical notation for depicting procedural detail?

- Box diagram
- Decision table
- ER diagram
- Flowchart

D. Flowchart

21

. A decision table should be used

- To document all conditional statements
- To guide the development of the project management plan
- Only when building an expert system
- When a complex set of conditions and actions appears in a component

D. When a complex set of conditions and actions appears in a component

22

. A program design language (PDL) is often a

- Combination of programming constructs and narrative text
- Legitimate programming language in its own right
- Machine readable software development language
- Useful way to represent software architecture

A. Combination of programming constructs and narrative text

23

. In the most general sense a component is a modular building block for computer software.

ANS: TRUE

1

. Which of the following interface design principles does not allow the user to remain in control of the interaction with a computer?

- allow interaction to interruptible
- allow interaction to be undoable
- hide technical internals from casual users
- only provide one rigidly defined method for accomplishing a task

D. only provide one rigidly defined method for accomplishing a task

2

. Which of the following interface design principles reduce the user's memory load?

- define intuitive shortcuts
- disclose information in a progressive fashion
- establish meaningful defaults
- provide an on-line tutorial
- a, b, c

E. a, b, c

3

. The reason for reducing the user's memory load is make his or her interaction with the computer quicker to complete.

ANS: FALSE

4

. Interface consistency implies that

- each application should have its own distinctive look and feel
- input mechanisms remain the same throughout the application
- navigational methods are context sensitive
- visual information is organized according to a design standard
- b and d

E. b and d

5

. If past interactive models have created certain user expectations it is not generally good to make changes to the model.

ANS: TRUE

6

. Which model depicts the profile of the end users of a computer system?

- design model
- implementation model
- user model
- user's model

C. user model

7

. Which model depicts the image of a system that an end user creates in his or her head?

- design model
- user model
- system model
- system perception

D. system perception

8

. Which model depicts the look and feel of the user interface along with all supporting information?

- implementation model
- user model
- user's model
- system perception

A. implementation model

9

. Which of these framework activities is not normally associated with the user interface design processes?

- cost estimation
- interface construction
- interface validation
- user and task analysis

A. cost estimation

10

. Which approach(es) to user task analysis can be useful in user interface design?

- have users indicate their preferences on questionnaires
- rely on the judgement of experienced programmers
- study existing computer-based solutions
- observe users performing tasks manually
- c and d

E. c and d

11

. Object-oriented analysis techniques can be used to identify and refine user task objects and actions without any need to refer to the user voice.

ANS: FALSE

12

. The computer's display capabilities are the primary determinant of the order in which user interface design activities are completed.

ANS: FALSE

13

. It is sometimes possible that the interface designer is constrained by environmental factors that mitigate against ease of use for many users

ANS: TRUE

14

. One means of defining user interface objects and actions is to conduct a grammatical parse of the user scenario.

ANS: TRUE

15

. Interface design patterns typically include a complete component-level design (design classes, attributes, operations, and interfaces).

ANS: TRUE

16

. Several common design issues surface for almost every user interface including

- adaptive user profiles
- error handling
- resolution of graphics displays
- system response time
- b and d

E. b and d

17

. It is more important to capture the user's attention with flashy features than ergonomically sound screen layouts when building a WebApp.

ANS: FALSE

18

. Several usability measures can be collected while observing users interacting with a computer system including

- down time for the application
- number of user errors
- software reliability
- time spent looking at help materials
- b and d

E. b and d

1

. Which of the following is not one of the elements of a design pattern?

- context
- environment

- problem
- solution

B. environment

2

. RubberNecking is an example of a classic generative pattern.

ANS: FALSE

3

. A frame work is a reusable mini-architecture that serves as a foundation which other design patterns can be applied?

ANS: TRUE

4

. Finding patterns built by others that address design problems is often more difficult than recognizing patterns in the application to be built.

ANS: TRUE

5

. A pattern language

- encompasses a collection of patterns
- is implemented using hypertext
- resembles the structure of natural languages
- None of the above

A. encompasses a collection of patterns

6

. The concepts and techniques discussed for _____ can be used in the conjunction with a pattern-based approach.

- Architectural design
- Component-level design
- User interface design
- All of the above

D. All of the above

7

. It is important to reduce the coupling among design patterns so that they can be treated as independent entities

ANS:FALSE

8

. Real life design solutions may not always lend themselves to a top-down approach.

ANS: TRUE

9

. Which of the following problem types are used to label columns in a pattern organizing table?

- Business
- Context
- Database
- Infrastructure
- c and d

E. c and d

10

. Most mistakes in pattern-based design can be avoided by judicious use of review techniques.

ANS: TRUE

11

. Before choosing an architectural design pattern it must be assessed for its appropriateness to the application and overall architectural style.

ANS: TRUE

12

. Unlike architectural patterns, component-level design patterns may be applied to solve subproblems without regard to system context.

ANS: FALSE

13

. Most user interface design patterns fall with in one of ____ categories of patterns.

ANS: 10

14

. WebApp design patterns can be classified by considering which of the dimensions listed below?

- Aesthetics

- Design focus
- Granularity
- Usability
- b and c

E. b and c

15

. Which of the following are levels of design focus that can be used to categorize WebApp patterns?

- Behavioral patterns
- Functional patterns
- Layout patterns
- Navigation patterns
- b and d

E. b and d

16

. Which of the levels of granularity that can be used to describe WebApp patterns?

- Architectural patterns
- Component patterns
- Design patterns
- Interactions patterns
- a, b, c

E. a, b, c

17

. Mobile app user interface patterns can be represented as a collection of best of breed screen images.

ANS: TRUE

1

. Which of the following characteristics should not be used to assess the quality of a WebApp?

- aesthetics
- reliability
- maintainability
- usability

A. aesthetics

2

. Which of the following are design goals for every WebApp?

- Simplicity
- Consistency
- Navigability
- Visual appeal
- All of the above.

E. All of the above.

3

. Which of the following not part of the design pyramid for WebE design?

- Architectural design
- Business case design
- Content design
- Navigation design

B. Business case design

4

. With WebApps content is everything, a poorly defined user interface will be quickly overlooked by frequent users.

ANS: FALSE

5

. Which of these are WebApp interaction mechanisms?

- Graphic icons
- Graphic images
- Navigation menus
- All of the above

D. All of the above

6

. Screen layout design has several widely accepted standards based on human factors research

ANS: FALSE

7

. Graphic design considers every aspect of the look and feel of a WebApp.

ANS: TRUE

8

. Content design is conducted by

- Copywriters and graphic designer
- Web engineers
- both a and b
- none of the above

C. both a and b

9

. Content objects have both information attributes defined during analysis and implementation specific attributes specified during design.

ANS: TRUE

10

. Content objects are not normally chunked into Web pages until the implementation activities begin.

ANS: FALSE

11

. Content architecture and WebApp architecture are pretty much the same thing for many WebApps?

ANS: FALSE

12

. Which of the following is not one of the content architectural structures used by web engineers?

- linear
- grid
- hierarchical
- parallel

D. parallel

13

. MVC is a three layer architecture that contains a

- machine, view, content objects
- model, view, and content objects
- model, view, and controller

- machine, view, controller

C. model, view, and controller

14

. Web navigational design involves creating a semantic navigational unit for each goal associated with each defined user role

ANS: TRUE

15

. To allow the user to feel in control of a WebApp, it is a good idea to mix both horizontal and vertical navigation mechanisms on the same page.

ANS: FALSE

16

. Component level design for WebApps is very similar to component level design for other software delivery environments.

ANS: TRUE

17

. Which of these is not one of the design activities associated with object-oriented hypermedia design?

- abstract interface design
- conceptual design
- content design
- navigational design

C. content design

18

. UML does not have any representation schemas that are useful in building WebApp design models

ANS: FALSE

1

. MobileApps must be designed take intermittent connectivity outages

ANS: TRUE

2

. Modern electronics allow developers to ignore the power demands made by a MobileApp.

ANS: FALSE

3

. A MobileApp is assessed for usability and accessibility before beginning the next increment begins.

ANS: TRUE

4

. Which of the following characteristics should not be used to assess the quality of a MobileApp?

- aesthetics
- reliability
- maintainability
- usability

A. aesthetics

5

. Quality function deployment is not necessary when implementing MobileApp user stories?

ANS: FALSE

6

. Using highly adaptive contextual interfaces is a good way to deal with device limitations like screen size.

ANS: TRUE

7

. Which of the following are common MobileApp design mistakes.

- Inconsistency
- Interoperability
- Lean design
- Overdesigning
- a and d

E. a and d

8

. It is better to multiple short pages than long scrolling forms when implementing mobile device user interfaces.

ANS: FALSE

9

. Java is the best programming language to use when you want to create portable MobileApps

ANS: FALSE

10

. Service computing allows you to avoid the need to integrate service source code into the mobile device client.

ANS: TRUE

11

. The most important MobileApp architecture decision whether to build a thin or fat mobile client.

ANS: TRUE

1

. Variation control in the context of software engineering involves controlling variation in the

- process applied
- resources expended
- product quality attributes
- all of the above

D. all of the above

2

. There is no need to assess customer satisfaction when trying to determine the quality of a piece of software.

ANS: FALSE

3

. A key concept of quality control is that all work products

- are delivered on time and under budget
- have complete documentation
- have measurable specifications for process outputs
- are thoroughly tested before delivery to the customer

C. have measurable specifications for process outputs

4

. Quality costs may be divided into costs associated with

- prevention, appraisal, and failure
- people, process, and product
- customers, developers, and maintenance
- all of the above

A. prevention, appraisal, and failure

5

. Poka-yoke devices are mechanisms that lead to the

- creation of quality processes with minimal resources
- determining causes of software defects
- prevention of potential quality problems
- rapid detection of quality problems introduced
- both c and d

E. both c and d

6

. Quality of conformance focuses on the degree to which the implementation of a design meets its requirements and performance goals

ANS: TRUE

7

. Which of the following is not one of the attributes of software quality?

- Adds value for developers and users
- Effective software process creates infrastructure
- Removes need to consider performance issues
- Useful products satisfy stakeholder requirements

C. Removes need to consider performance issues

8

. Product quality can only be assessed by measuring hard quality factors.

ANS: TRUE

9

. Many software metrics can only be measured indirectly.

ANS: TRUE

10

. Which of the following are ISO 9126 software quality factors?

- Functionality
- Portability
- Reliability
- Visual appeal
- a, b, c

E. a, b, c

11

. Developers need to create a collection of targeted questions to asses each quality factor.

ANS: TRUE

12

. Software metrics represent direct measures of some manifestation of quality.

ANS: FALSE

13

. The quality dilemma might be summarized as choosing between building things quickly or building things correctly.

ANS: FALSE

14

. Good enough software delivers high quality software functions along with specialized functions that contain known bugs.

ANS: TRUE

15

. Which of the following is likely to be the most expensive cost of quality?

- Appraisal costs
- External failure costs
- Internal failure costs
- Prevention costs

B. External failure costs

16

. Poor quality leads to software risks that can become serious?

ANS: TRUE

17

. When a system fails to deliver required functions it is because the customer changes requirements?

ANS: FALSE

18

. Developers must start focusing on quality during the design phase in order to build secure systems.

ANS: TRUE

19

. Which of the following management decisions have the potential to impact software quality?

- Estimation decisions
- Risk-oriented decisions
- Scheduling decisions
- All of the above

D. All of the above

20

. The project plan should include explicit techniques for _____ and _____ management?

- change
- cost
- error
- quality
- a and d

E. a and d

21

. Quality control encompasses a set of software engineering actions that help to ensure that each work product meets its quality goals

ANS: TRUE

22

. The goal of quality assurance to insure that a software project is error free

ANS: FALSE

1

. The purpose of software reviews is to uncover errors and defects in work products so they can be removed before moving on to the next phase of development.

ANS: TRUE

2

. In general the earlier a software defect is discovered and corrected the less costly to the overall project budget.

ANS: TRUE

3

. Defect amplification models can be used to illustrate the costs associated with using software from its initial deployment to its retirement

ANS: FALSE

4

. Review metrics can be used to assess the efficacy of each review activity.

ANS: TRUE

5

. Defect density can be estimated for any software engineering work product.

ANS: TRUE

6

. Agile software developers are aware that software reviews always take time without saving any.

ANS: FALSE

7

. The level of review formality is determined by which of the following?

- amount of preparation
- reviewer follow-up
- size of project budget
- structure of review
- a, b, d

E. a, b, d

8

. An informal review may consist of which of the following?

- casual meeting
- desk check
- inspection
- pair programming
- a and b

E. a and b

9

. Which of the following are objectives for formal technical reviews?

- allow senior staff members to correct errors
- assess programmer productivity
- determining who introduced an error into a program
- uncover errors in software work products

D. uncover errors in software work products

10

. At the end of a formal technical review all attendees can decide to

- accept the work product without modification
- modify the work product and continue the review
- reject the product due to stylistic discrepancies
- reject the product due to severe errors
- a and d

E. a and d

11

. A review summary report answers which three questions?

- terminate project, replace producer, request a time extension
- what defects were found, what caused defects, who was responsible
- what was reviewed, who reviewed it, what were the findings
- none of the above

C. what was reviewed, who reviewed it, what were the findings

12

. In any type of technical review, the focus of the review is on the product and not the producer

ANS: TRUE

13

. Sample driven reviews only make sense for very small software development projects.

ANS: FALSE

1

. Software quality might be defined as conformance to explicitly stated requirements and standards, nothing more and nothing less.

ANS: FALSE

2

. People who perform software quality assurance must look at the software from the customer's perspective.

ANS: TRUE

3

. The elements of software quality assurance consist of reviews, audits, and testing.

ANS: FALSE

4

. Which of these activities is not one of the activities recommended to be performed by an independent SQA group?

- prepare SQA plan for the project
- review software engineering activities to verify process compliance
- report any evidence of noncompliance to senior management
- serve as the sole test team for any software produced

D. serve as the sole test team for any software produced

5

. Metrics can be used to indicate the relative strength of a software quality attribute.

ANS: TRUE

6

. Attempts to apply mathematical proof to demonstrate that a program conforms to its specifications are doomed to failure.

ANS: FALSE

7

. Statistical quality assurance involves

- using sampling in place of exhaustive testing of software
- surveying customers to find out their opinions about product quality
- tracing each defect to its underlying cause, isolating the "vital few" causes, and moving to correct them
- tracing each defect to its underlying causes and using the Pareto principle to correct each problem found

C. tracing each defect to its underlying cause, isolating the "vital few" causes, and moving to correct them

8

. Six Sigma methodology defines three core steps.

- analyze, improve, control
- analyze, design, verify
- define, measure, analyze
- define, measure, control

C. define, measure, analyze

9

. Software reliability problems can almost always be traced to

- errors in accuracy
- errors in design
- errors in implementation
- errors in operation
- b and c

E. b and c

10

. Software safety is a quality assurance activity that focuses on hazards that

- affect the reliability of a software component
- may cause an entire system to fail
- may result from user input errors
- prevent profitable marketing of the final product

B. may cause an entire system to fail

11

. The ISO quality assurance standard that applies to software engineering is

- ISO 9000
- ISO 9001

- ISO 9002
- ISO 9003

B. ISO 9001

12

. Which of the following is not a section in the standard for SQA plans recommended by IEEE?

- budget
- documentation
- reviews and audits
- test

A. budget

1

. Comparison testing is typically done to test two competing products as part of customer market analysis prior to product release

ANS: FALSE

2

. Test case design "in the small" for OO software is driven by the algorithmic detail of the individual operations.

ANS: TRUE

3

. Deep structure testing is not designed to

- examine object behaviors
- exercise communication mechanisms
- exercise object dependencies
- exercise structure observable by the user

D. exercise structure observable by the user

4

. In software quality assurance work there is no difference between software verification and software validation.

ANS: FALSE

5

. The best reason for using Independent software test teams is that

- software developers do not need to do any testing
- strangers will test the software mercilessly
- testers do not get involved with the project until testing begins
- the conflicts of interest between developers and testers is reduced

D. the conflicts of interest between developers and testers is reduced

6

. What is the normal order of activities in which traditional software testing is organized?

- integration testing, system testing, unit testing, validation testing.
- unit testing, validation testing, system testing, integration testing
- unit testing, integration testing, validation testing, system testing
- validation testing, system testing, integration testing, unit testing

C. unit testing, integration testing, validation testing, system testing

7

. By collecting software metrics and making use of existing software reliability models it is possible to develop meaningful guidelines for determining when software testing is done.

ANS: TRUE

8

. Which of the following strategic issues needs to be addressed in a successful software testing process?

- conduct formal technical reviews prior to testing
- specify requirements in a quantifiable manner
- use independent test teams
- wait till code is written prior to writing the test plan
- a and b

E. a and b

9

. Which of the following need to be assessed during unit testing?

- algorithmic performance
- code stability
- error handling
- execution paths
- c and d

E. c and d

10

. Units and stubs are not needed for unit testing because the modules are tested independently of one another.

ANS: FALSE

11

. Top-down integration testing has as its major advantage(s) that

- low level modules never need testing
- major decision points are tested early
- no drivers need to be written
- no stubs need to be written
- b and c

E. b and c

12

. Bottom-up integration testing has as its major advantage(s) that

- major decision points are tested early
- no drivers need to be written
- no stubs need to be written
- regression testing is not required

C. no stubs need to be written

13

. Regression testing should be a normal part of integration testing because as a new module is added to the system new

- control logic is invoked
- data flow paths are established
- drivers require testing
- all of the above
- a and b

E. a and b

14

. Smoke testing might best be described as

- bulletproofing shrink-wrapped software
- rolling integration testing
- testing that hides implementation errors
- unit testing for small programs

B. rolling integration testing

15

. When testing object-oriented software it is important to test each class operation separately as part of the unit testing process

ANS: FALSE

16

. The OO testing integration strategy involves testing

- groups of classes that collaborate or communicate in some way
- single operations as they are added to the evolving class implementation
- operator programs derived from use-case scenarios
- none of the above

A. groups of classes that collaborate or communicate in some way

17

. Since many WebApps evolve continuously, the testing process must be ongoing as well.

ANS: TRUE

18

. Testing MobileApps is not different than testing WebApps.

ANS: FALSE

19

. The focus of validation testing is to uncover places that a user will be able to observe failure of the software to conform to its requirements.

ANS: TRUE

20

. Software validation is achieved through a series of tests performed by the user once the software is deployed in his or her work environment.

ANS: FALSE

21

. Configuration reviews are not needed if regression testing has been rigorously applied during software integration.

ANS: FALSE

22

. Acceptance tests are normally conducted by the

- developer
- end users
- test team
- systems engineers

B. end users

23

. Recovery testing is a system test that forces the software to fail in a variety of ways and verifies that software is able to continue execution without interruption.

AND: FALSE

24

. Security testing attempts to verify that protection mechanisms built into a system protect it from improper penetration.

AND: TRUE

25

. Stress testing examines the pressures placed on the user during system use in extreme environments.

ANS: FALSE

26

. Performance testing is only important for real-time or embedded systems.

ANS: FALSE

27

. Debugging is not testing, but always occurs as a consequence of testing.

ANS: TRUE

28

. Which of the following is an approach to debugging?

- backtracking
- brute force
- cause elimination
- code restructuring

- a, b, c

E. a, b, c

1

. With thorough testing it is possible to remove all defects from a program prior to delivery to the customer

ANS: FALSE

2

. Which of the following are characteristics of testable software?

- observability
- simplicity
- stability
- all of the above

D. all of the above

3

. The testing technique that requires devising test cases to demonstrate that each program function is operational is called

- black-box testing
- glass-box testing
- grey-box testing
- white-box testing

A. black-box testing

4

. The testing technique that requires devising test cases to exercise the internal logic of a software module is called

- behavioral testing
- black-box testing
- grey-box testing
- white-box testing

D. white-box testing

5

. What types of errors are missed by black-box testing and can be uncovered by white-box testing?

- behavioral errors
- logic errors
- performance errors
- typographical errors
- b and d

E. b and d

6

. Program flow graphs are identical to program flowcharts.

ANS: FALSE

7

. The cyclomatic complexity metric provides the designer with information regarding the number of

- cycles in the program
- errors in the program
- independent logic paths in the program
- statements in the program

C. independent logic paths in the program

8

. The cyclomatic complexity of a program can be computed directly from a PDL representation of an algorithm without drawing a program flow graph.

ANS: TRUE

9

. Condition testing is a control structure testing technique where the criteria used to design test cases is that they

- rely on basis path testing
- exercise the logical conditions in a program module
- select test paths based on the locations and uses of variables
- focus on testing the validity of loop constructs

B. exercise the logical conditions in a program module

10

. Data flow testing is a control structure testing technique where the criteria used to design test cases is that they

- rely on basis path testing

- exercise the logical conditions in a program module
- select test paths based on the locations and uses of variables
- focus on testing the validity of loop constructs

C. select test paths based on the locations and uses of variables

11

. Loop testing is a control structure testing technique where the criteria used to design test cases is that they

- rely basis path testing
- exercise the logical conditions in a program module
- select test paths based on the locations and uses of variables
- focus on testing the validity of loop constructs

D. focus on testing the validity of loop constructs

12

. Black-box testing attempts to find errors in which of the following categories

- incorrect or missing functions
- interface errors
- performance errors
- none of the above
- a, b, c

E. a, b, c

13

. Graph-based testing methods can only be used for object-oriented systems

ANS: FALSE

14

. Equivalence testing divides the input domain into classes of data from which test cases can be derived to reduce the total number of test cases that must be developed.

ANS: TRUE

15

. Boundary value analysis can only be used to do white-box testing.

ANS: FALSE

16

. Orthogonal array testing enables the test designer to maximize the coverage of the test cases devised for relatively small input domains.

ANS: TRUE

17

. Test derived from behavioral class models should be based on the

- data flow diagram
- object-relation diagram
- state transition diagram
- use-case diagram

C. state transition diagram

18

. Documentation does not need to be tested.

ANS: FALSE

19

. Real-time applications add a new and potentially difficult element to the testing mix

- performance
- reliability
- security
- time

D. time

1

. Testing OO class operations is made more difficult by

- Encapsulation
- Inheritance
- Polymorphism
- Both b and c

D. Both b and c

2

. It is not possible to test object-oriented software without including error discovery techniques applied to the system OOA and OOD models

ANS: TRUE

3

. The correctness of the OOA and OOD model is accomplished using formal technical reviews by the software quality assurance team.

ANS: FALSE

4

. The consistency of object-oriented models may be judged by reviewing the CRC card model.

ANS: TRUE

5

. Test case design for OO software is driven by the algorithmic detail of the individual operations.

ANS: TRUE

6

. Integration testing of object-oriented software can be accomplished by which of the following testing strategies?

- Cluster testing
- Glass-box testing
- Thread-based testing
- Use-based testing
- a, c, d

E. a, c, d

7

. Validation of object-oriented software focuses on user visible actions and outputs from the system.

ANS: TRUE

8

. Encapsulation of attributes and operations inside objects makes it easy to obtain object state information during testing

ANS: FALSE

9

. Use-cases can provide useful input into the design of black-box and state-based tests of OO software.

ANS: TRUE

10

. Fault-based testing is best reserved for

- conventional software testing
- operations and classes that are critical or suspect
- use-case validation
- white-box testing of operator algorithms

B. operations and classes that are critical or suspect

11

. Scenario-based testing

- concentrates on actor and software interaction
- misses errors in specifications
- misses errors in subsystem interactions
- both a and b

A. concentrates on actor and software interaction

12

. Random order tests are conducted to exercise different class instance life histories.

ANS: TRUE

13

. Which of these techniques is not useful for partition testing at the class level

- attribute-based partitioning
- category-based partitioning
- equivalence class partitioning
- state-based partitioning

C. equivalence class partitioning

14

. Multiple class testing is too complex to be tested using random test cases.

ANS: FALSE

15

. The state model can be used to derive test cases based on the dynamic behavior of an object-oriented system.

ANS: TRUE

1

. Which of the following is not one of the dimensions of quality used to assess a WebApp?

- Content
- Maintainability
- Navigability
- Usability

B. Maintainability

2

. WebApps require special testing methodologies because WebApp errors have several unique characteristics

ANS: TRUE

3

. Since WebnApps evolve continuously, the testing process is an on-going activity, conducted by the Web support staff using regression tests

ANS: TRUE

4

. Test planning is not used in WebApp testing.

ANS: FALSE

5

. As the WebApp architecture is constructed which types of testing are used as integration tests?

- Component testing
- Content testing
- Navigation testing
- Usability testing
- both a and c

E. both a and c

6

. Which of the following is not one of the objectives of WebApp content testing?

- Find organizational or structure errors
- Identify linking errors

- Uncover semantic errors
- Uncover syntactic errors

B. Identify linking errors

7

. Database testing is very rarely a part of WebApp content testing.

ANS: FALSE

8

. The overall strategy for interface testing is to uncover errors

- in navigation semantics
- in overall usability
- related to specific interface mechanisms
- both a and c

D. both a and c

9

. Which of the following is not a WebApp interface mechanism?

- Browser
- Cookies
- Forms
- Links

C. Forms

10

. When testing WebApp interface semantics, each use-case is used as input for the design of a testing sequence.

ANS: TRUE

11

. Usability tests should be designed and executed by intended users for a given WebApp.

ANS: FALSE

12

. WebApp compatibility testing is conducted to be sure that the user model for usage scenario matched the user category assigned to a given user

ANS: FALSE

13

. Which test case design technique(s) are appropriate for WebApp component-level testing?

- Boundary value analysis
- Equivalence partitioning
- Path testing
- All of the above

D. All of the above

14

. The purpose of WebApp navigation syntactic testing is to ensure the correct appearance of each navigation mechanism

ANS: FALSE

15

. Both Web engineers and non-technical users conduct navigation semantics testing for WebApps.

ANS: TRUE

16

. Which of following is not one of the elements that need to be considered when constructing WebApp server-side configuration tests?

- Browser compatibility
- Database software integration
- Operating system compatibility
- System security measures

A. Browser compatibility

17

. To design client-side configuration tests each user category is assessed to reduce the number of configuration variables to a manageable number

ANS: TRUE

18

. Which of the following is not a testable WebApp security element?

- Authentication
- Encryption
- Firewalls
- Penetration

D. Penetration

19

. WebApp performance tests are designed to

- asses WebApp usability
- evaluate page loading times
- simulate real-world loading situations
- test network connectivity

C. simulate real-world loading situations

20

. Load testing involves determining the input of which 3 variables?

- N, T, D
- N, T, P
- T, D, P
- N, D, P

A. N, T, D

21

. WebApp stress testing is a continuation load testing.

ANS: TRUE

1

. MobileApps require special testing methodologies because of concerns associated using them in diverse network environments.

ANS: TRUE

2

. Since MobileApp users are attracted to new technologies they are very tolerant of errors and testing effort can be reduced.

ANS: FALSE

3

. Designing test cases directly from user stories increase the likelihood of developing effective test cases in a timely manner

ANS: TRUE

4

. Automated testing tools eliminate the need to do regression testing for MobileApps.

ANS: FALSE

5

. A weighted device platform matrix helps to prioritize test cases.

ANS: FALSE

6

. Part of the reason for stress testing is to ensure that the MobileApp exhibits graceful degradation on failure

ANS: TRUE

7

. Which of the following are reasons for testing in the wild?

- Assessing the impact of production environments
- Failing to create test cases
- Not understanding user demographics
- Testing for variable performance on user devices
- both a and d

E. both a and d

8

. When testing the quality of user interaction the focus should be on user visible interaction mechanisms.

ANS: TRUE

9

. Which of that following add to the difficulty of testing MobileApp gestures?

- Automatic tool use is difficult
- Creating functions to simulate events
- Screen size variation
- Using paper prototypes
- a, b, c

E. a, b, c

10

. Continuous speech recognition techniques have eliminated the need for key entry in MobileApps.

ANS: FALSE

11

. Predictive technologies are often used to help speed up virtual keyboard input on mobile devices.

ANS: TRUE

12

. The ability of a MobileApp to handle alerts without disrupting user workflow must be tested in the production environment?

ANS: TRUE

13

. The Testing across borders is not necessary each MobileApp is developed for use in a specific country.

ANS: FALSE

14

. Which of the following are issues that make real-time testing difficult?

- Limited device processing capacity
- Power limitations on the device
- Unique mobile network infrastructures
- All of the above

D. All of the above

15

. Device emulators eliminate the need to test MobileApps on actual devices.

ANS: FALSE

1

. When analyzing security requirements focus in system assets with the highest value and greatest exposure

ANS: TRUE

2

. It is possible to have a safe system that is not secure.

ANS: FALSE

3

. Individuals rarely expose their personal information to others on social media networks

ANS: FALSE

4

. Wireless networks require the trust and cooperation between nodes that can be exploited by malicious programs?

ANS: TRUE

5

. Cloud computing is has greater levels of security than other web data repositories.

ANS: FALSE

6

. The security concerns remain an obstacle to implementing the vision implied by the Internet of Things .

ANS: TRUE

7

. Security and usability requirements are often in conflict with each other.

ANS: TRUE

8

. Which of following is not one of the elements of a security model?

- Criminal background checks
- External interface requirements
- Rules of operation
- Security policy objectives

A. Criminal background checks

9

. Security metrics and measures need to assess which of these properties?

- Dependability

- Survivability
- Trustworthiness
- All of the above

D. All of the above

10

. Security correctness checks should be included which of the following activities?

- Audits
- Deployment
- Inspections
- Testing
- a, b, c

E. a, b, c

11

. Which is not one of the elements of a security case?

- Arguments
- Bug reports
- Claims
- Evidence

B. Bug reports

12

. Security assurance and risk identification must be included in the schedule and budget if they are to be taken seriously.

ANS: TRUE

13

. Threat analysis is not needed for conventional software applications.

ANS: FALSE

14

. An incident response plan spells out the actions to be carried out by each stakeholder in response to specific attacks.

ANS: TRUE

1

. Statistical use testing relies on probability distributions based on

- mixture of control structures used in the program
- order in which the module execute
- the way software will actually be used
- user interface design standards

C. the way software will actually be used

2

. Certification of an increment is complete once it has passed the formal verification process.

ANS: FALSE

3

. Which of the following models is part of the cleanroom certification process?

- component model
- sampling model
- both a and b
- none of the above

C. both a and b

4

. A data invariant is a set of conditions that are true during the execution of any function.

ANS: FALSE

5

. In some formal languages, stored data that the system accesses and alters is called a(n)

- attribute
- data structure
- state
- variant

C. state

6

. In formal methods work, an action that reads or writes data to a state is called a(n)

- actor
- event
- invariant
- operation

D. operation

7

. What defines the circumstances in which a particular operation is valid?

- data invariant
- precondition
- postcondition
- state

B. precondition

8

. Using formal methods eliminates the need to write natural language commentary in the specification document.

ANS: FALSE

9

. A common notational convention in many formal methods is to write the variable with a prime in the postcondition for an operator

ANS: TRUE

10

. Which of these are components of a formal specification language?

- Semantics that defines the objects used to describe system
- Set of relations defining the object rules
- Syntax that defining the notation
- all of the above

D. all of the above

11

. OCL makes use of several specialized mathematical characters

ANS: FALSE

12

. The Z language makes use of schemas to describe system states in terms of the values assigned to system variables.

ANS: TRUE

13

. The cleanroom strategy is based on the _____ software process model.

- evolutionary
- incremental
- revolutionary
- spiral

B. incremental

14

. The cleanroom strategy relies on

- exhaustive testing
- extensive unit testing of all modules
- tests that exercise the software as it is really used
- white box testing strategies

C. tests that exercise the software as it is really used

15

. Use of formal program correctness proofs as part of the cleanroom process eliminates the need do any testing for software defects

ANS: FALSE

16

. In cleanroom software engineering a “box” encapsulates some system aspect at a particular level of detail.

ANS: TRUE

17

. This box specification describes an abstraction, stimuli, and response

- black box
- clear box
- state box
- white box

A. black box

18

. This box specification describes the architectural design for some system component

- black box
- clear box

- state box
- white box

C. state box

19

. This box specification is closely aligned with procedural design and structured programming.

- black box
- clear box
- state box
- white box

B. clear box

20

. In cleanroom software engineering the structured programming approach is used to

- refine data design
- refine function design
- refine usage test cases
- both a and b

D. both a and b

21

. By using only structured programming constructs as you create a procedural design, you make the work of proving design correctness much easier.

ANS: TRUE

22

. Which of the following is not an advantage of using rigorous correctness verification of each refinement of the clear box design?

- improves performance of code
- produces better code than unit testing
- reduces verification effort
- results in near zero defect levels

A. improves performance of code

1

. Which of these are valid software configuration items?

- case tools

- documentation
- executable programs
- test data
- All of the above.

E. All of the above.

2

. Which of the following is not considered one of the four important elements that should exist when a configuration management system is developed?

- component elements
- human elements
- process elements
- validation elements

D. validation elements

3

. Once a software engineering work product becomes a baseline it cannot be changed again.

ANS: FALSE

4

. Which configuration objects would not typically be found in the project database?

- design specification
- marketing data
- organizational structure description
- test plans
- b and c

E. b and c

5

. Modern software engineering practices usually attempt to maintain SCI's in a project database or repository.

ANS: TRUE

6

. A data repository meta model is used to determine how

- information is stored in the repository
- well data integrity can be maintained
- easily the existing model can be extended

- all of the above

D. all of the above

7

. Many data repository requirements are the same as those for a typical database application.

ANS: TRUE

8

. The ability to track relationships and changes to configuration objects is one of the most important features of the SCM repository.

ANS: TRUE

9

. Which of the following tasks is not part of software configuration management?

- change control
- reporting
- statistical quality control
- version control

C. statistical quality control

10

. A basic configuration object is a _____ created by a software engineer during some phase of the software development process

- program data structure
- hardware driver
- unit of information
- all of the above

C. unit of information

11

. Version control systems establish a change set as part of their primary functionality.

ANS: FALSE

12

. Change control is not necessary if a development group is making use of an automated project database tool.

ANS: FALSE

13

. When software configuration management is a formal activity the software configuration audit is conducted by the

- development team
- quality assurance group
- senior managers
- testing specialists

B. quality assurance group

14

. The primary purpose of configuration status reporting is to

- allow revision of project schedule and cost estimates by project managers
- evaluate the performance of software developers and organizations
- make sure that change information is communicated to all affected parties
- none of the above

C. make sure that change information is communicated to all affected parties

15

. Configuration issues that need to be considered when developing Web and Mobile Apps include:

- content
- cost
- people
- politics
- a, b, c

E. a, b, c

16

. Web and Mobile App configuration objects can be managed in much the same way as conventional software configuration objects except for:

- content items
- functional items
- graphic items
- user items

A. content items

17

. Content management establishes a process by which Web content is rendered on the user's display screen.

ANS: FALSE

18

. Change management for Web and Mobile Apps is best handled in agile manner.

ANS: TRUE

19

. One reason that version control is difficult for WebApps is that in an uncontrolled environment, you can have multiple authors making changes to the same files from multiple locations without any realizing it.

ANS: TRUE

20

. Requiring developers to check Web configuration items in and out and sending affected stakeholders e-mail messages automatically are good ways to deal with configuration auditing and reporting for WebApps

ANS: TRUE

1

. Conformance to implicit requirements and customer expectations has no place in modern software quality assurance work

ANS: FALSE

2

. Which of the following is not one of three software product aspects addressed by McCall's software quality factors?

- ability to undergo change
- adaptability to new environments
- operational characteristics
- production costs and scheduling

D. production costs and scheduling

3

. The ISO 9126 quality standards for computer software are useful because they lend themselves to direct measurement of software attributes.

ANS: FALSE

4

. Most testing metrics actually focus on the process of testing rather than the technical characteristics of the tests themselves.

ANS: TRUE

5

. Testing effort can also be estimated using metrics derived from cyclomatic complexity.

ANS: TRUE

6

. Most technical software metrics described in this chapter represent indirect measures software attributes that are useful in the quantitative assessment of software quality.

ANS: TRUE

7

. Which these are reasons for using technical product measures during software development?

- large body of scientific evidence supports their use
- provides software engineers with an objective mechanism for assessing software quality
- they allow all quality software quality information to be expressed unambiguously as a single number
- all of the above

B. provides software engineers with an objective mechanism for assessing software quality

8

. Which measurement activity is missing from the list below?

- Formulation
- Collection
- Analysis
- Interpretation

- design
- feedback
- measurement
- quantification

B. feedback

9

. The Goal/Question/Metric (GQM) paradigm was developed as a technique for assigning blame for software failures.

ANS: FALSE

10

. One of the most important attributes for a software product metric is that it should be

- easy to compute
- qualitative in nature
- reliable over time
- widely applicable

A. easy to compute

11

. In many cases metrics for one model may be used in later software engineering activities (e.g. design metrics may be used in test planning)

ANS: TRUE

12

. The function point metric is an example of metric that can be used to assist with technical decision-making based on the analysis model information, without making use of historical project data

ANS: FALSE

13

. The specification metrics proposed by Davis address which two characteristics of the software requirements?

- functionality and performance
- performance and completeness
- specificity and completeness
- specificity and functionality

C. specificity and completeness

14

. Architectural design metrics focus on

- architectural structure
- data structural relationships
- internal module complexity
- module effectiveness
- a and d

E. a and d

15

. Which of the following is not a measurable characteristic of an object-oriented design?

- completeness
- efficiency
- size
- volatility

B. efficiency

16

. The depth of inheritance tree (DIT) metric can give an OO software designer a reading on the

- attributes required for each class
- completion time required for system implementation
- complexity of the class hierarchy
- level of object reusability achieved

B. completion time required for system implementation

17

. Because the class is the dominant unit in OO systems there is no call for the definition of class-oriented metrics.

ANS: FALSE

18

. If you encounter a class with a large responsibility (large class size or CS value) you should consider

- making it a base class
- making it a subclass
- partitioning the class
- starting a new class hierarchy

C. partitioning the class

19

. Component-level metrics include measures of

- complexity
- coupling
- module cohesion
- performance
- a, b, c

E. a, b, c

20

. Because the class is the dominant unit in OO systems very few metrics have been proposed for operations that reside within a class.

ANS: TRUE

21

. Interface metrics are used to assess the complexity of the module's input and output relationships with external devices.

ANS: FALSE

22

. Most WebApps can be easily characterized by judicious use of widely recognized suites of software metrics?

ANS: FALSE

23

. Halstead's source code metrics are based on the number of

- modules in the program
- operands in the program
- operators in the program
- volume elements in the program
- b and c

E. b and c

24

. Software testing metrics fall into two broad categories

- metrics that focus on defect removal effectiveness
- metrics that focus on test coverage
- metrics that estimate the duration of the testing process
- metrics that predict the number of test cases required
- b and d

E. b and d

25

. The IEEE software maturity index (SMI) is used to provide a measure of the

- maintainability of a software product based on its availability
- relative age of a software product being considered for retirement
- reliability of a software product following regression testing

- stability of a software product as it is modified during maintenance

D. stability of a software product as it is modified during maintenance

1

. **Effective software project management focuses on**

- people, performance, payoff, product
- people, product, performance, process
- people, product, process, project
- people, process, payoff, product

C. people, product, process, project

2

. **Organizations that achieve high levels of maturity in people management have a higher likelihood of implementing effective software engineering processes**

ANS: TRUE

3

. **The first step in project planning is to**

- determine the budget.
- select a team organizational model.
- determine the project constraints
- establish the objectives and scope

D. establish the objectives and scope

4

. **Process framework activities are populated with**

- milestones
- work products
- QA points
- all of the above

D. all of the above

5

. **Project management is less important for modern software development since most projects are successful and completed on time**

ANS: FALSE

6

. Which of the following is not considered a stakeholder in the software process?

- customers
- end-users
- project managers
- sales people

D. sales people

7

. The best person to hire as a project team leader is the most competent software engineering practitioner available

ANS: FALSE

8

. The best project team organizational model to use when tackling extremely complex problems is the

- closed paradigm
- open paradigm
- random paradigm
- synchronous paradigm

B. open paradigm

9

. Which factors should be considered in choosing the organizational structure for a software team?

- degree of communication desired
- predicted size of the resulting program
- rigidity of the delivery date
- size of the project budget
- a, b, c

E. a, b, c

10

. One of the best ways to avoid frustration during the software development process is to

- give team members more control over process and technical decisions
- give team members less control over process and technical decisions.
- hide bad news from the project team members until things improve.
- reward programmers based on their productivity.

A. give team members more control over process and technical decisions

11

. Small agile teams have no place in modern software development.

ANS: FALSE

12

. Which of these software characteristics is not a factor contributing to project coordination difficulties?

- interoperability
- performance
- scale
- uncertainty

B. performance

13

. Which of these software characteristics are used to determine the scope of a software project?

- context, lines of code, function
- context, function, communication requirements
- information objectives, function, performance
- communications requirements, performance, information objectives

C. information objectives, function, performance

14

. The major areas of problem decomposition during the project scoping activity are the

- customer workflow
- functionality to be delivered
- process used to deliver functionality
- software process model
- b and c

E. b and c

15

. Product and process decomposition occurs simultaneously as the project plan evolves.

ANS: TRUE

16

. When can selected common process framework activities be omitted during process decomposition?

- when the project is extremely small in size
- any time the software is mission critical
- rapid prototyping does not require their use
- never the activities are invariant

D. never the activities are invariant

17

. How does a software project manager need to act to minimize the risk of software failure?

- double the project team size
- request a large budget
- start on the right foot
- track progress
- c and d

E. c and d

18

. The W5HH principle contains which of the following questions?

- Why is the system being developed?
- What will be done by whom?
- Where are they organizationally located?
- How much of each resource is required?
- a, c d

E. a, c d

19

. Which of these are critical practices for performance-based project management?

- assessing product usability
- defect tracking against quality targets
- empirical cost estimation
- formal risk management
- b, c, d

E. b, c, d

1

. The terms measure, measurement, and metric all share the same definition according to the IEEE Standard Glossary of Software Engineering Terms.

ANS: FALSE

2

. Which of these are valid reasons for measuring software processes, products, and resources?

- to characterize them
- to evaluate them
- to price them
- to improve them
- a, b, d

E. a, b, d

3

. Process indicators enable a software project manager to

- assess the status of an on-going project
- track potential risks
- adjust work flow or tasks
- none of the above

D. none of the above

4

. Public metrics are used

- to evaluate the performance of software development teams.
- to appraise the performance of individual team members.
- to make strategic changes to the software process.
- to make tactical changes during a software project.
- c and d

E. c and d

5

. Which of the following items are not measured by software project metrics?

- inputs
- markets
- outputs
- results

B. markets

6

. Software quality and functionality must be measured indirectly.

ANS: TRUE

7

. Which of following are advantages of using LOC (lines of code) as a size-oriented metric?

- LOC is easily computed.
- LOC is a language dependent measure.
- LOC is a language independent measure.
- LOC can be computed before a design is completed.

A. LOC is easily computed.

8

. Which of the following are advantages of using function points (FP) as a measure of the functionality delivered by a software application?

- FP is easily computed
- FP is a language dependent measure.
- FP is a language independent measure
- FP can be computed before a design is completed
- c and d

E. c and d

9

. There is no need to reconcile LOC and FP measures since each is meaningful in its own right as a project measure.

ANS: FALSE

10

. Object-Oriented project measures may be combined with historical project data to provide metrics that aid in project estimation

ANS: TRUE

11

. Use-Case oriented metrics are computed directly from UML diagrams they are often used as normalization measures.

ANS: FALSE

12

. Which of the following is not a measure that can be collected from a Web application project?

- Customization index
- Number of dynamic objects
- Number of internal page links

- Number of static web pages

A. Customization index

13

. Which of the following software quality factors is most likely to be affected by radical changes to computing architectures?

- operation
- transition
- revision
- none of the above

D. none of the above

14

. Which of the following provide useful measures of software quality?

- correctness, performance, integrity, usability
- reliability, maintainability, integrity, sales
- correctness, maintainability, size, satisfaction
- correctness, maintainability, integrity, usability

D. correctness, maintainability, integrity, usability

15

. A software quality metric that can be used at both the process and project levels is defect removal efficiency (DRE).

ANS: TRUE

16

. Why is it important to measure the process of software engineering and software it produces?

- It is really not necessary unless the project is extremely complex.
- To determine costs and allow a profit margin to be set.
- To determine whether a software group is improving or not.
- To make software engineering more like other engineering processes

C. To determine whether a software group is improving or not.

17

. To be an effective aid in process improvement the baseline data used must be:

- based on reasonable guestimates from past projects
- measured consistently across projects

- drawn from similar projects
- based on all previously completed projects
- b and c

E. b and c

18

. Baseline data must be collected in an on-going manner and cannot be computed by formal study of historical project data

ANS: FALSE

19

. Small software organizations are not likely to see any economic return from establishing software metrics program

ANS: FALSE

20

. The software metrics chosen by an organization are driven by the business or technical goals an organization wishes to accomplish.

ANS: TRUE

1

. The only reason an estimate may be unreliable is lack of experience with the application on the part of the estimator.

ANS: FALSE

2

. The hardware required for most computer-based systems is more costly to purchase than the software.

ANS: FALSE

3

. Since project estimates are not completely reliable, they can be ignored once a software development project begins

ANS: FALSE

4

. The objective of software project planning is to

- convince the customer that a project is feasible.
- make use of historical project data.
- enable a manager to make reasonable estimates of cost and schedule
- determine the probable profit margin prior to bidding on a project.

C. enable a manager to make reasonable estimates of cost and schedule

5

. **The project scope is defined as a means of bounding the system**

- functionality
- performance
- costs
- schedule
- a and b

E. a and b

6

. **Software feasibility is based on which of the following**

- business and marketing concerns
- scope, constraints, market
- technology, finance, time, resources
- technical prowess of the developers

C. technology, finance, time, resources

7

. **The number of people required for a software project is determined**

- after an estimate of the development effort is made.
- by the size of the project budget.
- from an assessment of the technical complexity of the system.
- all of the above

A. after an estimate of the development effort is made.

8

. **Reusable software components must be**

- catalogued for easy reference
- standardized for easy application.
- validated for easy integration.
- all of the above

D. all of the above

9

. The software engineering environment (SEE) consists of which of the following?

- customers
- developers
- hardware platforms
- software tools
- c and d

E. c and d

10

. Software project estimation techniques can be broadly classified under which of the following headings?

- automated processes
- decomposition techniques
- empirical models
- regression models
- b and c

E. b and c

11

. The size estimate for a software product to be built must be based on a direct measure like LOC.

ANS: FALSE

12

. Problem-based estimation is based on problem decomposition which focuses on

- information domain values
- project schedule
- software functions
- process activities
- a and c

E. a and c

13

. LOC-based estimation techniques require problem decomposition based on

- information domain values
- project schedule
- software functions
- process activities

C. software functions

14

. FP-based estimation techniques require problem decomposition based on

- information domain values
- project schedule
- software functions
- process activities

A. information domain values

15

. Process-based estimation techniques require problem decomposition based on

- information domain values
- project schedule
- software functions
- process activities
- c and d

E. c and d

16

. Unlike a LOC or function point each person's "use-case" is exactly the same size

ANS: FALSE

17

. When agreement between estimates is poor the cause may often be traced to inadequately defined project scope or inappropriate productivity data.

ANS: TRUE

18

. Empirical estimation models are typically based on

- expert judgement based on past project experiences
- refinement of expected value estimation
- regression models derived from historical project data
- trial and error determination of the parameters and coefficients

C. regression models derived from historical project data

19

. COCOMO II is an example of a suite of modern empirical estimation models that require sizing information expressed as:

- function points
- lines of code
- object points
- any of the above

D. any of the above

20

. Putnam's software equation is a dynamic empirical model that has two independent parameters: a size estimate and an indication of project duration in calendar months or years.

ANS: TRUE

21

. Function points are of no use in developing estimates for object-oriented software.

ANS: FALSE

22

. In agile software development estimation techniques focus on the time required to complete each

- increment
- scenario
- task
- use-case

A. increment

23

. It is possible to use a modified function point technique to develop estimates for Web applications.

ANS: TRUE

24

. Using a statistical technique like decision tree analysis can provide some assistance in sorting out the true costs associated with the make-buy decision.

ANS: TRUE

25

. Outsourcing always provides a simple means of acquiring software at lower cost than onsite development of the same product.

ANS: FALSE

1

. For purposes of determining the major engineering tasks and distributing them on the project time line, the project manager should assume that the process model used is

- linear
- sequential
- iterative evolutionary
- any of the above

D. any of the above

2

. The only means accomplishing task refinement is to make use of a process design language approach.

ANS: FALSE

3

. Software projects are inevitably late and there is nothing that can explain why

ANS: FALSE

4

. It is unethical to undertake a project that you know in advance cannot be completed by the customer's deadline, unless you inform the customer of the risk and establish a project plan that can deliver the needed system incrementally

ANS: TRUE

5

. Which of the following is not one of the guiding principles of software project scheduling:

- compartmentalization
- market assessment
- time allocation
- effort validation

B. market assessment

6

. Doubling the size of your software project team is guaranteed to cut project completion time in half.

ANS: FALSE

7

. The software equation can be used to show that by extending the project deadline slightly

- fewer people are required
- you are guaranteed to meet the deadline
- more lines of code can be produced
- none of the above

A. fewer people are required

8

. The 40-20-40 rule suggests that the least of amount of development effort be spent on

- estimation and planning
- analysis and design
- coding
- testing

C. coding

9

. A task set is a collection of

- engineering work tasks, milestones, deliverables
- task assignments, cost estimates, metrics
- milestones, deliverables, metrics
- responsibilities, milestones, documents

A. engineering work tasks, milestones, deliverables

10

. The task (activity) network is a useful mechanism for

- computing the overall effort estimate
- detecting intertask dependencies
- determining the critical path
- specifying the task set to the customer
- b and c

E. b and c

11

. Tasks that lie on the critical path in a task network may be completed in any order as long as the project is on schedule.

ANS: FALSE

12

. Two tools for computing critical path and project completion times from activity networks are

- CPM
- DRE
- FP
- PERT
- a and d

E. a and d

13

. Timeline charts assist project managers in determining what tasks will be conducted at a given point in time.

ANS: TRUE

14

. The best indicator of progress on a software project is the completion

- of a defined engineering activity task
- of a successful budget review meeting on time
- and successful review of a defined software work product
- and successful acceptance of project prototype by the customer

C. and successful review of a defined software work product

15

. Since iterative process model work best for object-oriented projects it is impossible to determine whether an increment will be completed on time or not.

ANS: FALSE

16

. WebApp projects only require the creation of a macro schedule.

ANS: FALSE

17

. The purpose of earned value analysis is to

- determine how to compensate developers based on their productivity
- provide a quantitative means of assessing software project progress
- provide a qualitative means of assessing software project progress
- set the price point for a software product based on development effort

B. provide a quantitative means of assessing software project progress

18

. Earned value analysis is a technique that allows managers to take corrective action before a project crisis develops

ANS: TRUE

1

. A risk referent level is a risk component value (performance, cost, support, schedule) or combination of values that cause a project to be terminated.

ANS: TRUE

2

. An effective risk management plan will need to address which of the following issues?

- risk avoidance
- risk monitoring
- contingency planning
- all of the above

D. all of the above

3

. Proactive risk management is sometimes described as fire fighting

ANS: FALSE

4

. Software risk always involves two characteristics

- fire fighting and crisis management
- known and unknown risks
- uncertainty and loss
- staffing and budget

C. uncertainty and loss

5

. Three categories of risks are

- business risks, personnel risks, budget risks
- project risks, technical risks, business risks
- planning risks, technical risks, personnel risks

- management risks, technical risks, design risks

B. project risks, technical risks, business risks

6

. Generic risks require far more attention than product-specific risks.

ANS: FALSE

7

. A risk item checklist would contain known and predictable risks from which of these categories?

- product size
- development environment
- staff size
- process definition
- all of the above

E. all of the above

8

. Questions that should be asked to assess the overall project risk include:

- Have top managers formally committed to support the project?
- Are end-users committed to the project and proposed system being built?
- Are requirements fully understood by development team and customers?
- Does the proposed budget have time allocated for marketing?
- a, b, c

E. a, b, c

9

. Software risk impact assessment should focus on consequences affecting

- planning, resources, cost, schedule
- marketability, cost, personnel
- business, technology, process
- performance, support, cost, schedule

D. performance, support, cost, schedule

10

. Risk projection attempts to rate each risk in two ways

- likelihood and cost
- likelihood and impact

- likelihood and consequences
- likelihood and exposure

C. likelihood and consequences

11

. Risk tables are sorted by

- probability and cost
- probability and impact
- probability and consequences
- probability and exposure

B. probability and impact

12

. Individual team members can make their own estimate for a risk probability and then develop a consensus value.

ANS: TRUE

13

. Which factors affect the probable consequences likely if a risk does occur?

- risk cost
- risk timing
- risk scope
- risk resources
- b and c

E. b and c

14

. The reason for refining risks is to break them into smaller units having different consequences.

ANS: FALSE

15

. Effective risk management plan needs to address which of these issues?

- risk avoidance
- risk monitoring
- contingency planning
- all of the above

D. all of the above

16

. Risk monitoring involves watching the risk indicators defined for the project and not determining the effectiveness of the risk mitigation steps themselves.

ANS: FALSE

17

. Hazard analysis focuses on the identification and assessment of potential hazards that can cause

- project termination
- schedule slippage
- cost overruns
- an entire system to fail

D. an entire system to fail

18

. Risk information sheets (RIS) are never an acceptable substitute for a full risk mitigation, monitoring, and management (RMMM) plan.

ANS: FALSE

1

. A new _____ is defined when major changes have been made to one or more configuration objects.

- entity
- item
- variant
- version

D. version

2

. WebApp configuration objects can be managed in much the same way as conventional software configuration objects except for:

- content items
- functional items
- graphic items
- user items

A. content items

3

. SCI standards take a formal view and do not address guidelines for applying change management in agile environments.

ANS: FALSE

4

. How much effort is typically expended by a software organization on software maintenance?

- 20 percent
- 40 percent
- 60 percent
- 80 percent

C. 60 percent

5

. Software supportability is not concerned with either the provision of hardware or infrastructure.

ANS: FALSE

6

. Business process reengineering is often accompanied by software reengineering.

ANS: TRUE

7

. Which of the following is not an example of a business process?

- designing a new product
- hiring an employee
- purchasing services
- testing software

D. testing software

8

. Business process reengineering does not have a start or end, it is an evolutionary process.

ANS: TRUE

9

. Which of the following activities is not part of the software reengineering process model?

- forward engineering
- inventory analysis
- prototyping

- reverse engineering

C. prototyping

10

. Software reengineering process model includes restructuring activities for which of the following work items?

- code
- documentation
- data
- all of the above

D. all of the above

11

. Which of the following is not an issue to consider when reverse engineering?

- abstraction level
- completeness
- connectivity
- directionality

C. connectivity

12

. Reverse engineering of data focuses on

- database structures
- internal data structures
- both a and b
- none of the above

C. both a and b

13

. The first reverse engineering activity involves seeking to understand

- data
- processing
- user interfaces
- none of the above

B. processing

14

. Reverse engineering should proceed the reengineering of any user interface.

ANS: TRUE

15

. Which of these benefits can be achieved when software is restructured?

- higher quality programs
- reduced maintenance effort
- software easier to test
- all of the above

D. all of the above

16

. Code restructuring is a good example of software reengineering

ANS: FALSE

17

. Which of these is not an example of data restructuring?

- data analysis
- data name rationalization
- data record standardization
- none of the above

A. data analysis

18

. Forward engineering is not necessary if an existing software product is producing the correct output.

ANS: FALSE

19

. Reengineering client/server systems begins with a thorough analysis of the business environment that encompasses the existing computing system

ANS: TRUE

20

. The only time reengineering enters into work with a legacy system is when its components will be implemented as objects.

ANS: FALSE

21

. The cost benefits derived from reengineering are realized largely due to decreased maintenance and support costs for the new software product.

ANS: TRUE

Which one of the following is not an Evolutionary Process Model?

- a) WINWIN Spiral Model
- b) Incremental Model
- c) Concurrent Development Model
- d) All of the mentioned**

The Incremental Model is a result of combination of elements of which two models?

- a) Build & FIX Model & Waterfall Model
- b) Linear Model & RAD Model
- c) Linear Model & Prototyping Model**
- d) Waterfall Model & RAD Model

What is the major advantage of using Incremental Model?

- a) Customer can respond to each increment
- b) Easier to test and debug
- c) It is used when there is a need to get a product to the market early
- d) Easier to test and debug & It is used when there is a need to get a product to the market early**

The spiral model was originally proposed by

- a) IBM
- b) Barry Boehm**
- c) Pressman
- d) Royce

The spiral model has two dimensions namely _____ and _____

- a) diagonal, angular
- b) radial, perpendicular
- c) radial, angular**
- d) diagonal, perpendicular

How is WINWIN Spiral Model different from Spiral Model?

- a) It defines tasks required to define resources, timelines, and other project related information
- b) It defines a set of negotiation activities at the beginning of each pass around the spiral**
- c) It defines tasks required to assess both technical and management risks
- d) It defines tasks required to construct, test, install, and provide user support

Identify the disadvantage of Spiral Model.

- a) Doesn't work well for smaller projects
- b) High amount of risk analysis
- c) Strong approval and documentation control
- d) Additional Functionality can be added at a later date

Spiral Model has user involvement in all its phases.

- a) True
- b) False

How is Incremental Model different from Spiral Model?

- a) Progress can be measured for Incremental Model
- b) Changing requirements can be accommodated in Incremental Model
- c) Users can see the system early in Incremental Model
- d) All of the mentioned

If you were to create client/server applications, which model would you go for?

- a) WINWIN Spiral Model
- b) Spiral Model
- c) Concurrent Model
- d) Incremental Model

Selection of a model is based on

- a) Requirements
- b) Development team & Users
- c) Project type and associated risk
- d) All of the mentioned

Which two models doesn't allow defining requirements early in the cycle?

- a) Waterfall & RAD
- b) Prototyping & Spiral
- c) Prototyping & RAD
- d) Waterfall & Spiral

Which of the following life cycle model can be chosen if the development team has less experience on similar projects?

- a) Spiral
- b) Waterfall
- c) RAD
- d) Iterative Enhancement Model

If you were a lead developer of a software company and you are asked to submit a project/product within a stipulated time-frame with no cost barriers, which model would you select?

- a) Waterfall

- b) Spiral
- c) RAD
- d) Incremental

Which two of the following models will not be able to give the desired outcome if user's participation is not involved?

- a) Waterfall & Spiral
- b) RAD & Spiral
- c) RAD & Waterfall
- d) RAD & Prototyping

A company is developing an advance version of their current software available in the market, what model approach would they prefer ?

- a) RAD
- b) Iterative Enhancement
- c) Both RAD & Iterative Enhancement
- d) Spiral

One can choose Waterfall Model if the project development schedule is tight.

- a) True
- b) False

Choose the correct option from given below:

- a) Prototyping Model facilitates reusability of components
- b) RAD Model Model facilitates reusability of components
- c) Both RAD & Prototyping Model facilitates reusability of components
- d) None

Spiral Model has high reliability requirements.

- a) True
- b) False

RAD Model has high reliability requirements.

- a) True
- b) False

Identify a fourth generation language(4GL) from the given below.

- a) FORTRAN
- b) COBOL
- c) Unix shell
- d) C++

Arrange the following activities for making a software product using 4GT.

- i. Design strategy
- ii. Transformation into product

iii. Implementation

iv. Requirement gathering

- a) 1, 4, 3, 2
- b) 4, 3, 1, 2
- c) 4, 1, 3, 2
- d) 1, 3, 4, 2

. 4GL is an example of _____ processing.

- a) White Box
- b) Black Box
- c) Functional
- d) Both Black Box & Functional

The 4GT Model is a package of _____

- a) CASE Tools
- b) Software tools
- c) Software Programs
- d) None of the mentioned

Which of the following is not a type of a 4GL? One originating _____

- a) on Lisp machine
- b) on report generators
- c) from database query languages
- d) from GUI creators

In 4GT, we can specify the user requirements in graphic notation or small abbreviated language form.

- a) True
- b) False

Productivity of software engineers is reduced in using a 4GT.

- a) True
- b) False

Which of the following 4GLs invented at IBM and subsequently adopted by ANSI and ISO as the standard language for managing structured data?

- a) SQL
- b) PROLOG
- c) C
- d) JAVA

What is a major advantage of using a 4GT Model for producing small scale products, applications or programs ?

- a) Improved productivity of software engineers
- b) Reduction in software development time

- c) 4GT helped by CASE tools and code generators offers a credible solution to many software problems
- d) None of the mentioned

Which of the following model has a major disadvantage in terms of the coding phase of a software life cycle model ?

- a) Spiral Model
- b) Waterfall Model
- c) Rad Model
- d) 4GT Model**

Which one of the following is not a software process quality?

- a) Productivity
- b) Portability**
- c) Timeliness
- d) Visibility

_____ & _____ are two kinds of software products.

- a) CAD, CAM
- b) Firmware, Embedded
- c) Generic, Customised**
- d) None of the mentioned

Software costs more to maintain than it does to develop.

- a) True**
- b) False

Which one of the following is not an application of embedded software product?

- a) keypad control of a security system
- b) pattern recognition game playing**
- c) digital function of dashboard display in a car
- d) none of the mentioned

Purpose of process is to deliver software

- a) in time
- b) with acceptable quality
- c) that is cost efficient
- d) both in time & with acceptable quality**

The work associated with software engineering can be categorized into three generic phases, regardless of application area, project size, or complexity namely the _____ phase which focuses on *what*, the _____ phase which focuses on *how* and the _____ phase which focuses on *change*.

- i. support
- ii. development

iii. definition

- a) 1, 2, 3
- b) 2, 1, 3
- c) 3, 2, 1
- d) 3, 1, 2

Which of the following activities of a Generic Process framework provides a feedback report?

- a) Communication
- b) Planning
- c) Modeling & Construction
- d) Deployment

Process adopted for one project is same as the process adopted from another project.

- a) True
- b) False

Which one of the following is not an Umbrella Activity that complements the five process framework activities and help team manage and control progress, quality, change, and risk.

- a) Reusability management
- b) Risk management
- c) Measurement
- d) User Reviews

Four types of change are encountered during the support phase. Which one of the following is not one that falls into such category?

- a) Translation
- b) Correction
- c) Adaptation
- d) Prevention

If a software production gets behind schedule, one can add more programmers and catch up.

- a) True
- b) False

Choose an internal software quality from given below:

- a) scalability
- b) usability
- c) reusability
- d) reliability

. RUP stands for _____ created by a division of _____

- a) Rational Unified Program, IBM
- b) Rational Unified Process, Infosys

- c) Rational Unified Process, Microsoft
- d) Rational Unified Process, IBM**

The RUP is normally described from three perspectives-dynamic, static & practice.What does static perspective do ?

- a) It shows the process activities that are enacted**
- b) It suggests good practices to be used during the process
- c) It shows the phases of the model over time
- d) All of the mentioned

The only deliverable work product for a successful project is the working program.

- a) True
- b) False**

Which phase of the RUP is used to establish a business case for the system ?

- a) Transition
- b) Elaboration
- c) Construction
- d) Inception**

Which one of the following is not a fundamental activity for software processes in software engineering ?

- a) Software Verification**
- b) Software Validation
- c) Software design and implementation
- d) Software evolution

A general statement of objectives is the major cause of failed software efforts.

- a) True**
- b) False

The longer a fault exists in software

- a) the more tedious its removal becomes
- b) the more costly it is to detect and correct
- c) the less likely it is to be properly corrected
- d) All of the mentioned**

Component-based Software Engineering allows faster delivery.

- a) True**
- b) False

Arrange the following steps to form a basic/general Engineering Process Model.

- i. Test
- ii. Design
- iii. Install

iv. Specification

v. Manufacture

vi. Maintain

a) 2, 4, 5, 1, 6, 3

b) 4, 2, 5, 1, 3, 6

c) 2, 4, 5, 1, 3, 6

d) 4, 2, 5, 1, 6, 3

Select the option that suits the Manifesto for Agile Software Development

a) Individuals and interactions

b) Working software

c) Customer collaboration

d) All of the mentioned

Agile Software Development is based on

a) Incremental Development

b) Iterative Development

c) Linear Development

d) Both Incremental and Iterative Development

Which one of the following is not an agile method?

a) XP

b) 4GT

c) AUP

d) All of the mentioned

Agility is defined as the ability of a project team to respond rapidly to a change.

a) True

b) False

How is plan driven development different from agile development ?

a) Outputs are decided through a process of negotiation during the software development process

b) Specification, design, implementation and testing are interleaved

c) Iteration occurs within activities

d) All of the mentioned

How many phases are there in Scrum ?

a) Two

b) Three

c) Four

d) Scrum is an agile method which means it does not have phases

Agile methods seem to work best when team members have a relatively high skill level.

- a) True
- b) False

Which of the following does not apply to agility to a software process?

- a) Uses incremental product delivery strategy
- b) Only essential work products are produced
- c) Eliminate the use of project planning and testing
- d) All of the mentioned

Which three framework activities are present in Adaptive Software Development(ASD) ?

- a) analysis, design, coding
- b) requirements gathering, adaptive cycle planning, iterative development
- c) speculation, collaboration, learning
- d) all of the mentioned

In agile development it is more important to build software that meets the customers' needs today than worry about features that might be needed in the future.

- a) True
- b) False

Incremental development in Extreme Programming (XP) is supported through a system release once every month.

- a) True
- b) False

In XP, as soon as the work on a task is complete, it is integrated into the whole system.

- a) True
- b) False

In XP Increments are delivered to customers every _____ weeks.

- a) One
- b) Two
- c) Three
- d) Four

User requirements are expressed as _____ in Extreme Programming.

- a) implementation tasks
- b) functionalities
- c) scenarios
- d) none of the mentioned

Is a customer involved test development and validation in XP ?

- a) Yes
- b) No

c) It may vary from Customer to Customer

d) None of the mentioned

Programmers prefer programming to testing and sometimes they take shortcuts when writing tests. For example, they may write incomplete tests that do not check for all possible exceptions that may occur.

a) True

b) False

Tests are automated in Extreme Programming.

a) True

b) False

In XP an automated unit test framework is used to write tests for a new piece of functionality before that functionality itself is implemented.

a) True

b) False

Developers work individually on a release and they compare their results with other developers before forwarding that release to customers.

a) True

b) False

Which four framework activities are found in the Extreme Programming(XP) ?

a) analysis, design, coding, testing

b) planning, analysis, design, coding

c) planning, design, coding, testing

d) planning, analysis, coding, testing

What are the types of requirements ?

a) Availability

b) Reliability

c) Usability

d) All of the mentioned

Select the developer-specific requirement ?

a) Portability

b) Maintainability

c) Availability

d) Both Portability and Maintainability

Which one of the following is not a step of requirement engineering?

a) elicitation

b) design

- c) analysis
- d) documentation

FAST stands for

- a) Functional Application Specification Technique
- b) Fast Application Specification Technique
- c) **Facilitated Application Specification Technique**
- d) None of the mentioned

QFD stands for

- a) quality function design
- b) quality function development
- c) **quality function deployment**
- d) none of the mentioned

A Use-case actor is always a person having a role that different people may play.

- a) True
- b) **False**

The user system requirements are the parts of which document ?

- a) SDD
- b) **SRS**
- c) DDD
- d) SRD

A stakeholder is anyone who will purchase the completed software system under development.

- a) True
- b) **False**

Conflicting requirements are common in Requirement Engineering, with each client proposing his or her version is the right one.

- a) **True**
- b) False

Which is one of the most important stakeholder from the following ?

- a) Entry level personnel
- b) Middle level stakeholder
- c) Managers
- d) **Users of the software**

Which one of the following is a functional requirement ?

- a) Maintainability
- b) Portability

- c) Robustness
- d) None of the mentioned

Which one of the following is a requirement that fits in a developer's module ?

- a) Availability
- b) Testability
- c) Usability
- d) Flexibility

"Consider a system where, a heat sensor detects an intrusion and alerts the security company." What kind of a requirement the system is providing ?

- a) Functional
- b) Non-Functional
- c) Known Requirement
- d) None of the mentioned

Which of the following statements explains portability in non-functional requirements?

- a) It is a degree to which software running on one platform can easily be converted to run on another platform
- b) It cannot be enhanced by using languages, OS' and tools that are universally available and standardized
- c) The ability of the system to behave consistently in a user-acceptable manner when operating within the environment for which the system was intended
- d) None of the mentioned

Functional requirements capture the intended behavior of the system.

- a) True
- b) False

Choose the incorrect statement with respect to Non-Functional Requirement(NFR).

- a) Product-oriented Approach – Focus on system (or software) quality
- b) Process-oriented Approach – Focus on how NFRs can be used in the design process
- c) Quantitative Approach – Find measurable scales for the functionality attributes
- d) Qualitative Approach – Study various relationships between quality goals

How many classification schemes have been developed for NFRs ?

- a) Two
- b) Three
- c) Four
- d) Five

According to components of FURPS+, which of the following does not belong to S ?

- a) Testability
- b) Speed Efficiency

- c) Serviceability
- d) Installability

Does software wear & tear by decomposition ?

- a) Yes
- b) No

What are the four dimensions of Dependability ?

- a) Usability, Reliability, Security, Flexibility
- b) Availability, Reliability, Maintainability, Security
- c) Availability, Reliability, Security, Safety
- d) Security, Safety, Testability, Usability

Choose the correct statement on how NFRs integrates with Rational Unified Process ?

- a) System responds within 4 seconds on average to local user requests and changes in the environment
- b) System responds within 4 seconds on average to remote user requests and changes in the environment
- c) All of the mentioned
- d) None of the mentioned

What is the first step of requirement elicitation ?

- a) Identifying Stakeholder
- b) Listing out Requirements
- c) Requirements Gathering
- d) All of the mentioned

Starting from least to most important, choose the order of stakeholder.

- i. Managers
 - ii. Entry level Personnel
 - iii. Users
 - iv. Middle level stakeholder
- a) i, ii, iv, iii
 - b) i, ii, iii, iv
 - c) ii, iv, i, iii
 - d) All of the mentioned

Arrange the tasks involved in requirements elicitation in an appropriate manner.

- i. Consolidation
 - ii. Prioritization
 - iii. Requirements Gathering
 - iv. Evaluation
- a) iii, i, ii, iv
 - b) iii, iv, ii, i

- c) iii, ii, iv, i
- d) ii, iii, iv, i

What are the types of requirement in Quality Function Deployment(QFD) ?

- a) Known, Unknown, Undreamed
- b) User, Developer
- c) Functional, Non-Functional
- d) Normal, Expected, Exciting**

What kind of approach was introduced for elicitation and modelling to give a functional view of the system ?

- a) Object Oriented Design (by Booch)
- b) Use Cases (by Jacobson)**
- c) Fusion (by Coleman)
- d) Object Modeling Technique (by Rumbaugh)

What are the kinds of actors used in OOSE ?

- a) Primary
- b) Secondary
- c) Ternary
- d) Both Primary and Secondary**

Why is Requirements Elicitation a difficult task ?

- a) Problem of scope
- b) Problem of understanding
- c) Problem of volatility
- d) All of the mentioned**

What requirement gathering method developed at IBM in 1970s is used for managing requirement elicitation ?

- a) JAD
- b) Traceability
- c) FAST
- d) Both JAD and Traceability**

. Requirements elicitation is a cyclic process

- a) True**
- b) False

How many Scenarios are there in elicitation activities ?

- a) One
- b) Two
- c) Three
- d) Four**

Which of the following elicitation techniques is a viewpoint based method?

- a) FODA
- b) QFD
- c) CORE
- d) IBIS

_____ and _____ are the two view points discussed in Controlled Requirements Expression (CORE).

- a) Functional, Non-Functional
- b) User, Developer
- c) Known, Unknown
- d) All of the mentioned

What is the major drawback of CORE ?

- a) Requirements are comprehensive
- b) NFRs are not given enough importance
- c) Role of analyst is passive
- d) All of the mentioned

Choose a framework that corresponds to Issue Based Information System (IBIS).

- a) Idea -> Question -> Argument
- b) Question -> Idea -> Argument
- c) Issue -> Position -> Justification
- d) Both Question -> Idea -> Argument and Issue -> Position -> Justification

How is CORE different from IBIS ?

- a) Iterative in nature
- b) Redundancies are removed
- c) It is simple and an easier method to use
- d) Consistency problems are addressed in CORE

Which of the following Requirement Elicitation Techniques removes the poor understanding of application domain and lack of common terminology between the users and the analysts ?

- a) FODA
- b) CORE
- c) IBIS
- d) Prototyping

How many steps are involved in Feature Oriented Domain Analysis (FODA) ?

- a) Two
- b) Three

- c) Four
- d) Five

IBIS is a more structured approach than CORE.

- a) True
- b) False

Which one of the following is not an actor in JAD sessions ?

- a) User
- b) Tester
- c) Scribe
- d) Sponsor

What of the following is not an output of a JAD session ?

- a) Context Diagrams
- b) DFDs
- c) ER model
- d) UML diagrams

How is brainstorming different from JAD ? Brainstorming sessions

- a) last for about 2-3 hours
- b) last for about 2-3 days
- c) cover the technology used for the development
- d) all of the mentioned

How is throwaway prototype different from evolutionary prototype ?

- a) It involves successive steps
- b) It involves just one task
- c) The prototype is built with the idea that it will eventually be converted into final system
- d) It has a shorter development time

Keeping the requirements of QFD in mind which of the following is not an example of an Expected Requirement ?

- a) Ease of software installation
- b) Overall operational correctness and reliability
- c) Specific system functions
- d) Quality graphical display

QFD works best if it has management commitment.

- a) True
- b) False

Which of the following Requirement Elicitation Techniques is applicable to messy, changing and ill-defined problem situations ?

- a) Quality Function Deployment (QFD)

- b) Prototyping
- c) Soft Systems Methodology (SSM)
- d) Controlled Requirements Expression (CORE)

To ensure that a given root definition is rigorous and comprehensive, The Lancaster team proposed several criteria that are summarized in the mnemonic CATWOE in Soft Systems Methodology (SSM). Which of the following alphabet is representing an entirely different meaning to SSM ?

- a) C – Customer
- b) A – Actor
- c) T – Transformation
- d) E – ER Model

Choose the disadvantage of using SSM as an elicitation technique.

- a) It incorporates human element into design
- b) SSM is in its infant stage
- c) SSM is suitable for new systems
- d) Standard methodologies like Role Exploration, Issue Resolution and Reorganization support SSM

How many phases are there in Brainstorming ?

- a) Two
- b) Three
- c) Four
- d) All of the mentioned

Who controls the FAST (Facilitated Application Specification Techniques) meeting ?

- a) System Analyst
- b) Scribe
- c) Facilitator
- d) Manager

Arrange the steps in order to represent the conducting of Wideband Delphi Technique.

- i. Conduct a group discussion
 - ii. Conduct another group discussion
 - iii. Present experts with a problem
 - iv. Collect expert opinion anonymously
 - v. Iterate until consensus is reached
 - vi. Feedback a summary of result to each expert
- a) i, iii, ii, iv, v, vi
 - b) iii, i, ii, iv, v, vi
 - c) i, ii, iii, iv, vi, v
 - d) iii, i, iv, vi, ii, v

Which of the following is not a diagram studied in Requirement Analysis ?

- a) Use Cases
- b) Entity Relationship Diagram
- c) State Transition Diagram
- d) Activity Diagram**

How many feasibility studies is conducted in Requirement Analysis ?

- a) Two
- b) Three**
- c) Four
- d) None of the mentioned

How many phases are there in Requirement Analysis ?

- a) Three
- b) Four
- c) Five**
- d) Six

Traceability is not considered in Requirement Analysis.

- a) True
- b) False**

Requirements analysis is critical to the success of a development project.

- a) True**
- b) False
- c) Depends upon the size of project
- d) None of the mentioned

_____ and _____ are the two issues of Requirement Analysis.

- a) Performance, Design
- b) Stakeholder, Developer**
- c) Functional, Non-Functional
- d) None of the mentioned

The requirements that result from requirements analysis are typically expressed from one of three perspectives or views.What is that perspective or view ?

- a) Developer
- b) User
- c) Non-Functional
- d) Physical**

Requirements Analysis is an Iterative Process.

- a) True**
- b) False

Coad and Yourdon suggested _____ selection characteristics that should be used as an analyst considers each potential object for inclusion in the requirement analysis model.

- a) Three
- b) Four
- c) Five
- d) Six

Requirements should specify ‘what’ but not ‘how’.

- a) True
- b) False

Which of the following property does not correspond to a good Software Requirements Specification (SRS) ?

- a) Verifiable
- b) Ambiguous
- c) Complete
- d) Traceable

Which of the following property of SRS is depicted by the statement : “Conformity to a standard is maintained” ?

- a) Correct
- b) Complete
- c) Consistent
- d) Modifiable

The SRS is said to be *consistent* if and only if

- a) its structure and style are such that any changes to the requirements can be made easily while retaining the style and structure
- b) every requirement stated therein is one that the software shall meet
- c) every requirement stated therein is verifiable
- d) no subset of individual requirements described in it conflict with each other

Which of the following statements about SRS is/are true ?

- i. SRS is written by customer
 - ii. SRS is written by a developer
 - iii. SRS serves as a contract between customer and developer
- a) Only i is true
 - b) Both ii and iii are true
 - c) All are true
 - d) None of the mentioned

The SRS document is also known as _____ specification.

- a) black-box
- b) white-box

- c) grey-box
- d) none of the mentioned

Which of the following is included in SRS ?

- a) Cost
- b) Design Constraints**
- c) Staffing
- d) Delivery Schedule

Which of the following is not included in SRS ?

- a) Performance
- b) Functionality
- c) Design solutions**
- d) External Interfaces

Arrange the given sequence to form a SRS Prototype outline as per IEEE SRS Standard.

- i. General description
 - ii. Introduction
 - iii. Index
 - iv. Appendices
 - v. Specific Requirements
- a) iii, i, ii,v, iv
 - b) iii, ii, i, v, iv
 - c) ii, i, v, iv, iii**
 - d) iii, i, ii

Consider the following Statement: "The output of a program shall be given within 10 secs of event X 10% of the time."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Verifiable**
- c) Non-verifiable
- d) Correct

Consider the following Statement: "The data set will contain an end of file character."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Non-verifiable**
- c) Correct
- d) Ambiguous

Consider the following Statement: "The product should have a good human interface."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Non-Verifiable**

- c) Correct
- d) Ambiguous

Narrative essay is one of the best types of specification document ?

- a) True
- b) False

Which two requirements are given priority during Requirement Management of a product ?

- a) User and Developer
- b) Functional and Non-functional
- c) Enduring and Volatile
- d) All of the mentioned

Considering the example of issue/return of a book, cataloging etc. in a library management.What type of management requirement is being depicted here?

- a) Enduring
- b) Volatile
- c) Both Enduring & Volatile
- d) All of the mentioned

Why is Requirements Management Important ? It is due to the changes

- a) to the environment
- b) in technology
- c) in customer's expectations
- d) in all of the mentioned.

Requirements Management is a prerequisite for Quality-Oriented Development.

- a) True
- b) False

Requirements traceability is one of the most important part requirement management. It may also be referred to as the heart of requirement management.

- a) True
- b) False

Requirements Management has a high initial start-up cost but does not need ongoing funding throughout a project.

- a) True
- b) False

Which of the following is not a Requirement Management workbench tool ?

- a) RTM
- b) DOORS
- c) Rational Suite
- d) RDD 100

Which of the following is a requirement management activity ?

- a) Investigation
- b) Design
- c) Construction and Test
- d) All of the mentioned

What functionality of Requirement Management Tool (RMT) is depicted by the statement: "the tool should be able to automatically detect relations between artifacts. For example information retrieval techniques, monitoring of change history, naming schemas or model transformations."

- a) Automatic Link Detection
- b) Documentation Support
- c) Graphical Representation
- d) Automatic Link Creation and Change

According to a statistical report: "over 30% of all software projects are cancelled before completion and over 70% of the remainder fail to deliver expected features". What must be the reason for such a situation ?

- a) Poor change management
- b) Poor requirements management
- c) Poor quality control
- d) All of the mentioned

Which is the first step in the software development life cycle ?

- a) Analysis
- b) Design
- c) Problem/Opportunity Identification
- d) Development and Documentation

Which tool is use for structured designing ?

- a) Program flowchart
- b) Structure chart
- c) Data-flow diagram
- d) Module

A step by step instruction used to solve a problem is known as

- a) Sequential structure
- b) A List
- c) A plan
- d) An Algorithm

In the Analysis phase, the development of _____ occurs, which is a clear statement of the goals and objectives of the project.

- a) documentation

- b) flowchart
- c) program specification
- d) design

Actual programming of software code is done during the _____ step in the SDLC.

- a) Maintenance and Evaluation
- b) Design
- c) Analysis
- d) Development and Documentation

Who designs and implement database structures.

- a) Programmers
- b) Project managers
- c) Technical writers
- d) Database administrators

_____ is the process of translating a task into a series of commands that a computer will use to perform that task.

- a) Project design
- b) Installation
- c) Systems analysis
- d) Programming

Debugging is:

- a) creating program code
- b) finding and correcting errors in the program code
- c) identifying the task to be computerized
- d) creating the algorithm

In Design phase, which is the primary area of concern ?

- a) Architecture
- b) Data
- c) Interface
- d) All of the mentioned

. The importance of software design can be summarized in a single word which is:

- a) Efficiency
- b) Accuracy
- c) Quality
- d) Complexity

Cohesion is a qualitative indication of the degree to which a module

- a) can be written more compactly
- b) focuses on just one thing

- c) is able to complete its function in a timely manner
- d) is connected to other modules and the outside world

Coupling is a qualitative indication of the degree to which a module

- a) can be written more compactly
- b) focuses on just one thing
- c) is able to complete its function in a timely manner
- d) is connected to other modules and the outside world**

Java packages and Fortran subroutine are examples of_____

- a) Functions
- b) Modules**
- c) Classes
- d) Sub procedures

Which of the property of software modularity is incorrect with respect to benefits software modularity?

- a) Modules are robust
- b) Module can use other modules
- c) Modules Can be separately compiled and stored in a library
- d) Modules are mostly dependent**

_____ is a measure of the degree of interdependence between modules.

- a) Cohesion
- b) Coupling**
- c) None of the mentioned
- d) All of the mentioned

Which of the following is the best type of module coupling?

- a) Control Coupling
- b) Stamp Coupling
- c) Data Coupling**
- d) Content Coupling

Which of the following is the worst type of module coupling?

- a) Control Coupling
- b) Stamp Coupling
- c) External Coupling**
- d) Content Coupling

Which of the following is the worst type of module cohesion?

- a) Logical Cohesion
- b) Temporal Cohesion
- c) Functional Cohesion
- d) Coincidental Cohesion**

Which of the following is the best type of module cohesion?

- a) Functional Cohesion
- b) Temporal Cohesion
- c) Functional Cohesion
- d) Sequential Cohesion

A software engineer must design the modules with the goal of high cohesion and low coupling.

- a) True
- b) False

In what type of coupling, the complete data structure is passed from one module to another?

- a) Control Coupling
- b) Stamp Coupling
- c) External Coupling
- d) Content Coupling

If all tasks must be executed in the same time-span, what type of cohesion is being exhibited?

- a) Functional Cohesion
- b) Temporal Cohesion
- c) Functional Cohesion
- d) Sequential Cohesion

Choose the option that does not define Function Oriented Software Design.

- a) It consists of module definitions
- b) Modules represent data abstraction
- c) Modules support functional abstraction
- d) None of the mentioned

Which of the following is a complementary approach to function-oriented approach ?

- a) Object oriented analysis
- b) Object oriented design
- c) Structured approach
- d) Both Object oriented analysis and design

Function-oriented design techniques starts with functional requirements specified in

- a) SDD
- b) SRS
- c) All of the mentioned
- d) None of the mentioned

Structured Analysis is based on the principles of

- a) Top-down decomposition approach

- b) Divide and conquer principle
- c) Graphical representation of results using DFDs
- d) All of the mentioned**

Which of the following is/are true with respect to functions ?

- a) A function such as "search-book" is represented using a circle
- b) Functions represent some activity
- c) Function symbol is known as a process symbol or a bubble in DFD
- d) All of the mentioned**

Which of the following is not a use of a CASE tool ?

- a) Support structured analysis and design (SA/SD)
- b) Maintains the data dictionary
- c) Checks whether DFDs are balanced or not
- d) It complies with the available system**

What DFD notation is represented by the Rectangle?

- a) Transform
- b) Data Store**
- c) Function
- d) None of the mentioned

Structural decomposition is concerned with function calls.

- a) True**
- b) False

A function-oriented design focuses on the entities in the system rather than the data processing activities.

- a) True
- b) False**

In DFDs, user interactions with the system is denoted by

- a) Circle**
- b) Arrow
- c) Rectangle
- d) Triangle

SA/SD features are obtained from which of the methodologies?

- a) Constantine and Yourdon methodology
- b) DeMarco and Yourdon methodology
- c) Gane and Sarson methodology
- d) All of the mentioned**

Which of the following is not an activity of Structured Analysis (SA) ?

- a) Functional decomposition

- b) Transformation of a textual problem description into a graphic model
- c) All the functions represented in the DFD are mapped to a module structure
- d) All of the mentioned

To arrive at a form which is suitable for implementation in some programming language is the purpose of

- a) Structured Analysis (SA)
- b) Structured Design (SD)
- c) Detailed Design (DD)
- d) None of the mentioned

The results of structured analysis can be easily understood by ordinary customers.

- a) True
- b) False

Structured Analysis is based on the principle of Bottom-Up Approach.

- a) True
- b) False

The context diagram is also known as

- a) Level-0 DFD
- b) Level-1 DFD
- c) Level-2 DFD
- d) All of the mentioned

A directed arc or line in DFD represents

- a) Data Store
- b) Data Process
- c) Data Flow
- d) All of the mentioned

. A DFD is always accompanied by a data dictionary.

- a) True
- b) False

Which of the following is a function of CASE Tool?

- a) Supporting Structured analysis and design (SA/SD)
- b) Maintaining the data dictionary
- c) Checking whether DFDs are balanced or not
- d) All of the mentioned

Data Store Symbol in DFD represents a

- a) Physical file
- b) Data Structure

- c) Logical file
- d) All of the mentioned**

Choose the incorrect statement in terms of Objects.

- a) Objects are abstractions of real-world
- b) Objects can't manage themselves**
- c) Objects encapsulate state and representation information
- d) All of the mentioned

What encapsulates both data and data manipulation functions ?

- a) Object**
- b) Class
- c) Super Class
- d) Sub Class

Which of the following is a mechanism that allows several objects in an class hierarchy to have different methods with the same name?

- a) Aggregation
- b) Polymorphism**
- c) Inheritance
- d) All of the mentioned

Inherited object classes are self-contained.

- a) True
- b) False**

Which of the following points related to Object-oriented development (OOD) is true?

- a) OOA is concerned with developing an object model of the application domain
- b) OOD is concerned with developing an object-oriented system model to implement requirements
- c) All of the mentioned**
- d) None of the mentioned

How is generalization implemented in Object Oriented programming languages?

- a) Inheritance**
- b) Polymorphism
- c) Encapsulation
- d) Abstract Classes

Which of the following is a disadvantage of OOD ?

- a) Easier maintenance
- b) Objects may be understood as stand-alone entities
- c) Objects are potentially reusable components
- d) None of the mentioned**

Which of the following describes "Is-a-Relationship" ?

- a) Aggregation
- b) Inheritance**
- c) Dependency
- d) All of the mentioned

Object that collects data on request rather than autonomously is known as

- a) Active Object
- b) Passive Object**
- c) Multiple instance
- d) None of the mentioned

Objects are executed

- a) sequentially
- b) in Parallel
- c) sequentially & Parallel**
- d) none of the mentioned

How many layers are present in the OO design pyramid?

- a) three
- b) four**
- c) five
- d) one

Which of the following early OOD methods incorporates both a "micro development process" and a "macro development process." ?

- a) Booch method**
- b) Rumbaugh method
- c) Wirfs-Brock method
- d) Coad and Yourdon method

Grady Booch, James Rumbaugh, and Ivar Jacobson combined the best features of their individual object-oriented analysis into a new method for object oriented design known as

- a) HTML
- b) XML
- c) UML**
- d) SGML

A design description of an object is known as a class

- a) instance
- b) object
- c) case
- d) both instance and object**

Which of the following is conceptually similar to objects?

- a) PACKAGE
- b) PROC
- c) PRIVATE
- d) None of the mentioned

A design description in OOD includes

- a) Protocol Description
- b) Implementation Description
- c) Type Description
- d) both Protocol and Implementation Description

Which of the following is not an operation as per OOD algorithms and data structures?

- a) operations that manipulate data in some way
- b) operations that perform a computation
- c) operations that check for syntax errors
- d) operations that monitor an object for the occurrence of a controlling event

Throughout the OOD process, a software engineer should look for every opportunity for creating new design process.

- a) True
- b) False

Which of the following is not project management goal?

- a) Keeping overall costs within budget
- b) Delivering the software to the customer at the agreed time
- c) Maintaining a happy and well-functioning development team
- d) Avoiding customer complaint

Project managers have to assess the risks that may affect a project.

- a) True
- b) False

Which of the following is not considered as a risk in project management?

- a) Specification delays
- b) Product competition
- c) Testing
- d) Staff turnover

The process each manager follows during the life of a project is known as

- a) Project Management
- b) Manager life cycle
- c) Project Management Life Cycle
- d) All of the mentioned

A 66.6% risk is considered as

- a) very low
- b) low
- c) moderate
- d) high**

Which of the following is/are main parameters that you should use when computing the costs of a software development project?

- a) travel and training costs
- b) hardware and software costs
- c) effort costs (the costs of paying software engineers and managers)
- d) all of the mentioned**

Quality planning is the process of developing a quality plan for

- a) team
- b) project**
- c) customers
- d) project manager

Which of the following is incorrect activity for the configuration management of a software system?

- a) Internship management**
- b) Change management
- c) Version management
- d) System management

Identify the sub-process of process improvement

- a) Process introduction
- b) Process analysis**
- c) De-processification
- d) Process distribution

An independent relationship must exist between the attribute that can be measured and the external quality attribute.

- a) True
- b) False**

Which of the following is an important factor that can affect the accuracy and efficacy of estimates?

- a) Project size**
- b) Planning process
- c) Project complexity
- d) Degree of structural uncertainty

What describes the data and control to be processed?

- a) Planning process
- b) Software scope**
- c) External hardware
- d) Project complexity

A number of independent investigators have developed a team-oriented approach to requirements gathering that can be applied to establish the scope of a project called

- a) JAD
- b) CLASS
- c) FAST**
- d) None of the mentioned

CLSS stands for

- a) conveyor line sorting system**
- b) conveyor line sorting software
- c) conveyor line sorting speed
- d) conveyor line sorting specification

The project planner examines the statement of scope and extracts all important software functions which is known as

- a) Association
- b) Decomposition**
- c) Planning process
- d) All of the mentioned

The environment that supports the software project is called

- a) CLSS
- b) SEE**
- c) FAST
- d) CBSE

Which of the following is not an option to achieve reliable cost and effort estimate?

- a) Base estimates on similar projects that have already been completed
- b) Use one or more empirical models for software cost and effort estimation
- c) Use relatively simple decomposition techniques to generate project cost and effort estimates
- d) The ability to translate the size estimate into human effort, calendar time, and dollars**

What can be used to complement decomposition techniques and offer a potentially valuable estimation approach in their own right?

- a) Automated estimation tools
- b) Empirical estimation models**

- c) Decomposition techniques
- d) Both Automated estimation tools and Empirical estimation models

Which of the following is not achieved by an automated estimation tools?

- a) Predicting staffing levels
- b) Predicting software cost
- c) Predicting software schedules
- d) Predicting clients demands**

Software project estimation can never be an exact science, but a combination of good historical data and systematic techniques can improve estimation accuracy.

- a) True**
- b) False

Which of the following are parameters involved in computing the total cost of a software development project?

- a) Hardware and software costs
- b) Effort costs
- c) Travel and training costs
- d) All of the mentioned**

Which of the following costs is not part of the total effort cost?

- a) Costs of networking and communications
- b) Costs of providing heating and lighting office space
- c) Costs of lunch time food**
- d) Costs of support staff

What is related to the overall functionality of the delivered software?

- a) Function-related metrics**
- b) Product-related metrics
- c) Size-related metrics
- d) None of the mentioned

A _____ is developed using historical cost information that relates some software metric to the project cost.

- a) Algorithmic cost modelling**
- b) Expert judgement
- c) Estimation by analogy
- d) Parkinson's Law

It is often difficult to estimate size at an early stage in a project when only a specification is available

- a) True**
- b) False

Which technique is applicable when other projects in the same analogy application domain have been completed?

- a) Algorithmic cost modelling
- b) Expert judgement
- c) Estimation by analogy
- d) Parkinson's Law

Which model assumes that systems are created from reusable components, scripting or database programming?

- a) An application-composition model
- b) A post-architecture model
- c) A reuse model
- d) An early design model

Which of the following states that work expands to fill the time available.

- a) CASE tools
- b) Pricing to win
- c) Parkinson's Law
- d) Expert judgement

Which model is used during early stages of the system design after the requirements have been established?

- a) An application-composition model
- b) A post-architecture model
- c) A reuse model
- d) An early design model

Which model is used to compute the effort required to integrate reusable components or program code that is automatically generated by design or program translation tools?

- a) An application-composition model
- b) A post-architecture model
- c) A reuse model
- d) An early design model

The COCOMO model takes into account different approaches to software development, reuse, etc.

- a) True
- b) False

Which of the following uses empirically derived formulas to predict effort as a function of LOC or FP?

- a) FP-Based Estimation
- b) Process-Based Estimation

- c) COCOMO
- d) Both FP-Based Estimation and COCOMO**

The empirical data that support most estimation models are derived from a vast sample of projects.

- a) True
- b) False**

COCOMO stands for

- a) Constructive cost model**
- b) Comprehensive cost model
- c) Constructive cost estimation model
- d) Complete cost estimation model

Which version of COCOMO states that once requirements have been stabilized, the basic software architecture has been established?

- a) Early design stage model**
- b) Post-architecture-stage model
- c) Application composition model
- d) All of the mentioned

Which model was used during the early stages of software engineering, when prototyping of user interfaces, consideration of software and system interaction, assessment of performance, and evaluation of technology maturity were paramount.

- a) Early design stage model
- b) Post-architecture-stage model
- c) Application composition model**
- d) All of the mentioned

Which one is not a size measure for software product?

- a) LOC
- b) Halstead's program length
- c) Function Count
- d) Cyclomatic Complexity**

.COCOMO was developed initially by

- a) B.Beizer
- b) Rajiv Gupta
- c) B.W.Bohem**
- d) Gregg Rothermal

Estimation of size for a project is dependent on

- a) Cost
- b) Time

- c) Schedule
- d) None of the mentioned**

COCOMO-II was developed at

- a) University of Texas
- b) University of Southern California**
- c) MIT
- d) IIT-Kanpur

Which one is not a stage of COCOMO-II?

- a) Early design estimation model**
- b) Application Composition estimation model
- c) Comprehensive cost estimation model
- d) Post architecture estimation model

What all has to be identified as per risk identification?

- a) Threats
- b) Vulnerabilities
- c) Consequences
- d) All of the mentioned**

Which one is not a risk management activity?

- a) Risk assessment
- b) Risk generation**
- c) Risk control
- d) None of the mentioned

What is the product of the probability of incurring a loss due to the risk and the potential magnitude of that loss?

- a) Risk exposure**
- b) Risk prioritization
- c) Risk analysis
- d) All of the mentioned

What threatens the quality and timeliness of the software to be produced?

- a) Known risks
- b) Business risks
- c) Project risks
- d) Technical risks**

What threatens the viability of the software to be built?

- a) Known risks
- b) Business risks**
- c) Project risks
- d) Technical risks

Which of the following is not a business risk?

- a) building an excellent product or system that no one really wants
- b) losing the support of senior management due to a change in focus or change in people
- c) lack of documented requirements or software scope
- d) losing budgetary or personnel commitment

Which of the following is a systematic attempt to specify threats to the project plan?

- a) Risk identification
- b) Performance risk
- c) Support risk
- d) Risk projection

Which risks are associated with the overall size of the software to be built or modified?

- a) Business impact risks
- b) Process definition risks
- c) Product size risks
- d) Development environment risks

Which risks are associated with constraints imposed by management or the marketplace?

- a) Business impact risks
- b) Process definition risks
- c) Product size risks
- d) Development environment risks

Which of the following term is best defined by the statement: "the degree of uncertainty that the product will meet its requirements and be fit for its intended use."?

- a) Performance risk
- b) Cost risk
- c) Support risk
- d) Schedule risk

Risk management is one of the most important jobs for a

- a) Client
- b) Investor
- c) Production team
- d) Project manager

Which of the following risk is the failure of a purchased component to perform as expected?

- a) Product risk
- b) Project risk
- c) Business risk
- d) Programming risk

Which of the following term is best defined by the statement: "There will be a change of organizational management with different priorities."?

- a) Staff turnover
- b) Technology change
- c) Management change
- d) Product competition

Which of the following term is best defined by the statement: "The underlying technology on which the system is built is superseded by new technology."?

- a) Technology change
- b) Product competition
- c) Requirements change
- d) None of the mentioned

What assess the risk and your plans for risk mitigation and revise these when you learn more about the risk?

- a) Risk monitoring
- b) Risk planning
- c) Risk analysis
- d) Risk identification

Which of the following risks are derived from the organizational environment where the software is being developed?

- a) People risks
- b) Technology risks
- c) Estimation risks
- d) Organizational risks

Which of the following risks are derived from the software or hardware technologies that are used to develop the system?

- a) Managerial risks
- b) Technology risks
- c) Estimation risks
- d) Organizational risks

Which of the following term is best defined by the statement: "Derive traceability information to maximize information hiding in the design."?

- a) Underestimated development time
- b) Organizational restructuring
- c) Requirements changes
- d) None of the mentioned

Which of the following strategies means that the impact of the risk will be reduced?

- a) Avoidance strategies
- b) Minimization strategies

- c) Contingency plans
- d) All of the mentioned

Risk management is now recognized as one of the most important project management tasks.

- a) True
- b) False

Why is decomposition technique required?

- a) Software project estimation is a form of problem solving
- b) Developing a cost and effort estimate for a software project is too complex
- c) All of the mentioned
- d) None of the mentioned

Cost and effort estimation of a software uses only one forms of decomposition, either decomposition of the problem or decomposition of the process.

- a) True
- b) False

If a Direct approach to software project sizing is taken, size can be measured in

- a) LOC
- b) FP
- c) LOC and FP
- d) None of the mentioned

Which software project sizing approach develop estimates of the information domain characteristics?

- a) Function point sizing
- b) Change sizing
- c) Standard component sizing
- d) Fuzzy logic sizing

The expected value for the estimation variable (size), S, can be computed as a weighted average of the optimistic(S_{opt}), most likely (S_m), and pessimistic (S_{pess}) estimates given as

- a) $EV = (S_{opt} + 4S_m + S_{pess})/4$
- b) $EV = (S_{opt} + 4S_m + S_{pess})/6$
- c) $EV = (S_{opt} + 2S_m + S_{pess})/6$
- d) $EV = (S_{opt} + 2S_m + S_{pess})/4$

How many forms exists of Barry Boehm's COCOMO Model?

- a) Two
- b) Three
- c) Four
- d) No form exists

Who suggested the four different approaches to the sizing problem?

- a) Putnam
- b) Myers
- c) Boehm
- d) Putnam and Myers**

In many cases, it is often more cost-effective to acquire, rather than develop, computer software.

- a) True**
- b) False

A make-buy decision is based on whether

- a) The software may be purchased off-the-shelf
- b) “Full-experience” or “Partial-experience” software components should be used
- c) Customer-built software should be developed
- d) All of the mentioned**

Which of the following is not one of the five information domain characteristics of Function Point (FP) decomposition?

- a) External inputs
- b) External outputs
- c) External process**
- d) External inquiries

The project planner must reconcile the estimates based on decomposition techniques to produce a single estimate of effort.

- a) True
- b) False**

Programming language experience is a part of which factor of COCOMO cost drivers?

- a) Personnel Factor**
- b) Product Factor
- c) Platform Factor
- d) Project Factor

If an Indirect approach is taken, then the sizing approach is represented as

- a) LOC
- b) FP**
- c) Fuzzy Logic
- d) LOC and FP

Project management involves the planning, monitoring, and control of the people, process, and events that occur as software evolves from a preliminary concept to an operational implementation.

a) True

b) False

Which of the following is not an effective software project management focus?

a) people

b) product

c) popularity

d) process

PM-CMM stands for

a) people management capability maturity model

b) process management capability maturity model

c) product management capability maturity model

d) project management capability maturity model

Which of the following is not a project manager's activity?

a) project control

b) project management

c) project planning

d) project design

A software _____ provides the framework from which a comprehensive plan for software development can be established.

a) people

b) product

c) process

d) none of the mentioned

Who defines the business issues that often have significant influence on the project?

a) Practitioners

b) Project managers

c) Senior managers

d) None of the mentioned

Who delivers the technical skills that are necessary to engineer a product or an application?

a) Practitioners

b) Project managers

c) Senior managers

d) None of the mentioned

Which of the following paradigm attempts to structure a team in a manner that achieves some of the controls associated with the closed paradigm but also much of the innovation that occurs when using the random paradigm?

a) asynchronous paradigm

b) open paradigm

- c) closed paradigm
- d) synchronous paradigm

Which of the following is a people-intensive activity?

- a) Problem solving
- b) Organization
- c) Motivation
- d) Project management**

Which paradigm structures a team loosely and depends on individual initiative of the team members?

- a) random paradigm
- b) open paradigm
- c) closed paradigm
- d) synchronous paradigm**

Which of the following is not an approach to software cost estimation?

- a) Empirical
- b) Heuristic
- c) Analytical
- d) Critical**

Which paradigm relies on the natural compartmentalization of a problem and organizes team members to work on pieces of the problem with little active communication among themselves?

- a) random paradigm
- b) open paradigm
- c) closed paradigm**
- d) synchronous paradigm

Who interacts with the software once it is released for production use?

- a) End-users**
- b) Client
- c) Project (technical) managers
- d) Senior managers

Which of the following is not an effective project manager trait?

- a) Problem solving
- b) Managerial identity
- c) Influence and team building
- d) None of the mentioned**

Which type of software engineering team has a defined leader who coordinates specific tasks and secondary leaders that have responsibility for sub tasks?

- a) Controlled decentralized (CD)**

- b) Democratic decentralized (DD)
- c) Controlled centralized (CC)
- d) None of the mentioned

Commitments to unrealistic time and resource estimates may result in

- a) project delay
- b) poor quality work
- c) project failure
- d) all of the mentioned**

Which software engineering team has no permanent leader?

- a) Controlled decentralized (CD)
- b) Democratic decentralized (DD)**
- c) Controlled Centralized (CC)
- d) None of the mentioned

Which of the following is not a project factor that should be considered when planning the structure of software engineering teams?

- a) The difficulty of the problem to be solved
- b) High frustration caused by personal, business, or technological factors that causes friction among team members
- c) The degree of sociability required for the project**
- d) The rigidity of the delivery date

Which of the following is a collection of project coordination technique?

- a) Formal approaches
- b) Formal, interpersonal procedures
- c) Informal, interpersonal procedures
- d) All of the mentioned**

Which activity sits at the core of software requirements analysis?

- a) Problem decomposition
- b) Partitioning
- c) Problem elaboration
- d) All of the mentioned**

Which of the following is not a sign that indicates that an information systems project is in jeopardy?

- a) Software people don't understand their customers needs
- b) Changes are managed poorly
- c) Sponsorship is gained**
- d) Users are resistant

SPMP stands for

- a) Software Project Manager's Plan

- b) Software Project Management Plan
- c) Software Product Management Plan
- d) Software Product Manager's Plan

Which of the following is the reason that software is delivered late?

- a) Changing customer requirements that are not reflected in schedule changes
- b) Technical difficulties that could not have been foreseen in advance
- c) Human difficulties that could not have been foreseen in advance
- d) All of the mentioned

Which of the following is an activity that distributes estimated effort across the planned project duration by allocating the effort to specific software engineering tasks?

- a) Software Macroscopic schedule
- b) Software Project scheduling
- c) Software Detailed schedule
- d) None of the mentioned

Every task that is scheduled should be assigned to a specific team member is termed as

- a) Compartmentalization
- b) Defined milestones
- c) Defined responsibilities
- d) Defined outcomes

What is a collection of software engineering work tasks, milestones, and deliverables that must be accomplished to complete a particular project?

- a) Task set
- b) Degree of milestone
- c) Adaptation criteria
- d) All of the mentioned

Ensuring that no more than the allocated number of people are allocated at any given time in Software Scheduling is known as

- a) Time Allocation
- b) Effort Validation
- c) Defined Milestone
- d) Effort Distribution

What is used to determine the recommended degree of rigor with which the software process should be applied on a project?

- a) Degree of Rigor
- b) Adaptation criteria
- c) Task Set
- d) Both degree of Rigor and adaptation criteria

What evaluates the risk associated with the technology to be implemented as part of project scope?

- a) Concept scoping
- b) Preliminary concept planning**
- c) Technology risk assessment
- d) Customer reaction to the concept

Which of the following is not an adaptation criteria for software projects?

- a) Size of the project
- b) Customers Complaints**
- c) Project staff
- d) Mission criticality

Which of the following is a project scheduling method that can be applied to software development?

- a) PERT
- b) CPM
- c) CMM
- d) Both PERT and CPM**

A technique for performing quantitative analysis of progress is known as

- a) BCWS
- b) EVA**
- c) BAC
- d) CBSE

What is the recommended distribution of effort for a project?

- a) 40-20-40**
- b) 50-20-30
- c) 30-40-30
- d) 50-30-20

A project usually has a timeline chart which was developed by

- a) Henry Gantt**
- b) Barry Boehm
- c) Ivar Jacobson
- d) None of the mentioned

Which of the following categories is part of the output of software process?

- a) computer programs
- b) documents that describe the computer programs
- c) data
- d) all of the mentioned**

Which is a software configuration management concept that helps us to control change without seriously impeding justifiable change?

- a) Baselines
- b) Source code
- c) Data model
- d) None of the mentioned

Software Configuration Management can be administered in several ways. These include

- a) A single software configuration management team for the whole organization
- b) A separate configuration management team for each project
- c) Software Configuration Management distributed among the project members
- d) All of the mentioned

What combines procedures and tools to manage different versions of configuration objects that are created during the software process?

- a) Change control
- b) Version control
- c) SCIs
- d) None of the mentioned

What complements the formal technical review by assessing a configuration object for characteristics that are generally not considered during review?

- a) Software configuration audit
- b) Software configuration management
- c) Baseline
- d) None of the mentioned

Which of the following is the process of assembling program components, data, and libraries, and then compiling and linking these to create an executable system?

- a) System building
- b) Release management
- c) Change management
- d) Version management

Which of the following option is not tracked by configuration management tools?

- a) Tracking of change proposals
- b) Storing versions of system components
- c) Tracking the releases of system versions to customers
- d) None of the mentioned

Which of the following is not a Software Configuration Management Activity?

- a) Configuration item identification
- b) Risk management

- c) Release management
- d) Branch management

The definition and use of configuration management standards is essential for quality certification in

- a) ISO 9000
- b) CMM
- c) CMMI
- d) All of the mentioned**

What involves preparing software for external release and keeping track of the system versions that have been released for customer use?

- a) System building
- b) Release management**
- c) Change management
- d) Version management

Which of the following process ensures that versions of systems and components are recorded and maintained?

- a) Codeline
- b) Configuration control**
- c) Version
- d) Workspace

Which of the following process is concerned with analyzing the costs and benefits of proposed changes?

- a) Change management**
- b) Version management
- c) System building
- d) Release management

Which of the following is not a Version management feature?

- a) Version and release identification
- b) Build script generation**
- c) Project support
- d) Change history recording

Which method recommends that very frequent system builds should be carried out with automated testing to discover software problems?

- a) Agile method**
- b) Parallel compilation method
- c) Large systems method
- d) All of the mentioned

Which of the following is not a build system feature?

- a) Minimal recompilation
- b) Documentation generation
- c) Storage management
- d) Reporting

Which of the following is a collection of component versions that make up a system?

- a) Version
- b) Codeline
- c) Baseline
- d) None of the mentioned

Which of the following is a configuration item?

- a) Design & Test specification
- b) Source code
- c) Log information
- d) All of the mentioned

Which of the following is a part of system release?

- a) electronic and paper documentation describing the system
- b) packaging and associated publicity that have been designed for that release
- c) an installation program that is used to help install the system on target hardware
- d) all of the mentioned

A sequence of baselines representing different versions of a system is known as

- a) System building
- b) Mainline
- c) Software Configuration Item(SCI)
- d) None of the mentioned

Which of the following term is best defined by the statement “The creation of a new codeline from a version in an existing codeline”?

- a) Branching
- b) Merging
- c) Codeline
- d) Mainline

1. Choose the correct option in terms of Issues related to professional responsibility

- a) Confidentiality
- b) Intellectual property rights
- c) Both Confidentiality & Intellectual property rights
- d) Managing Client Relationships

2. "Software engineers should not use their technical skills to *misuse* other people's computers." Here the term *misuse* refers to:

- a) Unauthorized access to computer material
- b) Unauthorized modification of computer material
- c) Dissemination of viruses or other malware
- d) All of the mentioned**

3. Explain what is meant by *PRODUCT* with reference to one of the eight principles as per the ACM/IEEE Code of Ethics ?

- a) The product should be easy to use
- b) Software engineers shall ensure that their products and related modifications meet the highest professional standards possible**
- c) Software engineers shall ensure that their products and related modifications satisfy the client
- d) It means that the product designed /created should be easily available

4. Identify an ethical dilemma from the situations mentioned below:

- a) Your employer releases a safety-critical system without finishing the testing of the system**
- b) Refusing to undertake a project
- c) Agreement in principle with the policies of senior management
- d) All of the mentioned

5. Identify the correct statement: "Software engineers shall

- a) act in a manner that is in the best interests of his expertise and favour."
- b) act consistently with the public interest."**
- c) ensure that their products only meet the SRS."
- d) all of the mentioned

6. Select the incorrect statement: "Software engineers should

- a) not knowingly accept work that is outside your competence."
- b) not use your technical skills to misuse other people's computers."
- c) be dependent on their colleagues."**
- d) maintain integrity and independence in their professional judgment."

7. Efficiency in a software product does not include _____

- a) responsiveness
- b) licensing**
- c) memory utilization
- d) processing time

8. As per an IBM report, “31% of the project get cancelled before they are completed, 53% overrun their cost estimates by an average of 189% and for every 100 projects, there are 94 restarts”. What is the reason for these statistics ?

- a) Lack of adequate training in software engineering
- b) Lack of software ethics and understanding
- c) Management issues in the company
- d) All of the mentioned

9. The reason for software bugs and failures is due to

- a) Software companies
- b) Software Developers
- c) Both Software companies and Developers
- d) All of the mentioned

10. Company has latest computers and state-of-the-art software tools, so we shouldn't worry about the quality of the product.

- a) True
- b) False

1. Which of these are not among the eight principles followed by Software Engineering Code of Ethics and Professional Practice ?

- a) PUBLIC
- b) PROFESSION
- c) PRODUCT
- d) ENVIRONMENT

Answer: d.

2. What is a Software ?

- a) Software is set of programs
- b) Software is documentation and configuration of data
- c) Software is set of programs, documentation & configuration of data
- d) None of the mentioned

Answer: c.

3. Which of these does not account for software failure ?

- a) Increasing Demand
- b) Low expectation

- c) Increasing Supply
- d) Less reliable and expensive

Answer: c.

4. What are attributes of good software ?
- a) Software maintainability
 - b) Software functionality
 - c) Software development
 - d) Software maintainability & functionality

Answer: d.

5. Which of these software engineering activities are not a part of software processes ?
- a) Software dependence
 - b) Software development
 - c) Software validation
 - d) Software specification

Answer: a

6. Which of these is incorrect ?
- a) Software engineering belongs to Computer science
 - b) Software engineering is a part of more general form of System Engineering
 - c) Computer science belongs to Software engineering
 - d) Software engineering is concerned with the practicalities of developing and delivering useful software

Answer: c

7. Which of these is true ?
- a) Generic products and customized products are types of software products
 - b) Generic products are produced by organization and sold to open market
 - c) Customized products are commissioned by particular customer
 - d) All of the mentioned

Answer: d.

8. Which of these does not affect different types of software as a whole?
- a) Heterogeneity

- b) Flexibility
- c) Business and social change
- d) Security

Answer: b

9. The fundamental notions of software engineering does not account for ?

- a) Software processes
- b) Software Security
- c) Software reuse
- d) Software Validation

Answer: d.

10. Which of these is not true ?

- a) Web has led to availability of software services and possibility of developing highly distributed service based systems
- b) Web based systems have led to degradation of programming languages
- c) Web brings concept of software as service
- d) Web based system should be developed and delivered incrementally

Answer: b

1. Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code).

- a) 100-200
- b) 200-400
- c) 400-1000
- d) above 1000

2. RAD stands for

- a) Relative Application Development
- b) Rapid Application Development
- c) Rapid Application Document
- d) None of the mentioned

3. Which one of the following models is not suitable for accommodating any change?

- a) Build & Fix Model
- b) Prototyping Model
- c) RAD Model
- d) Waterfall Model

4. Which is not one of the types of prototype of Prototyping Model?

- a) Horizontal Prototype
- b) Vertical Prototype
- c) Diagonal Prototype
- d) Domain Prototype

5. Which one of the following is not a phase of Prototyping Model?

- a) Quick Design
- b) Coding
- c) Prototype Refinement
- d) Engineer Product

6. Which of the following statements regarding Build & Fix Model is wrong?

- a) No room for structured design
- b) Code soon becomes unfixable & unchangeable
- c) Maintenance is practically not possible
- d) It scales up well to large projects

7. RAD Model has

- a) 2 phases
- b) 3 phase
- c) 5 phases
- d) 6 phases

8. What is the major drawback of using RAD Model?

- a) Highly specialized & skilled developers/designers are required
- b) Increases reusability of components
- c) Encourages customer/client feedback
- d) Increases reusability of components, Highly specialized & skilled developers/designers are required

9. SDLC stands for

- a) Software Development Life Cycle
- b) System Development Life cycle
- c) Software Design Life Cycle
- d) System Design Life Cycle

10. Which model can be selected if user is involved in all the phases of SDLC?

- a) Waterfall Model
- b) Prototyping Model
- c) RAD Model
- d) both Prototyping Model & RAD Model

1. The Unified Modeling Language (UML) has become an effective standard for software modelling. How many different notations does it have ?

- a) Three
- b) Four
- c) Six
- d) Nine

2. Which model in system modelling depicts the dynamic behaviour of the system ?

- a) Context Model
- b) Behavioral Model
- c) Data Model
- d) Object Model

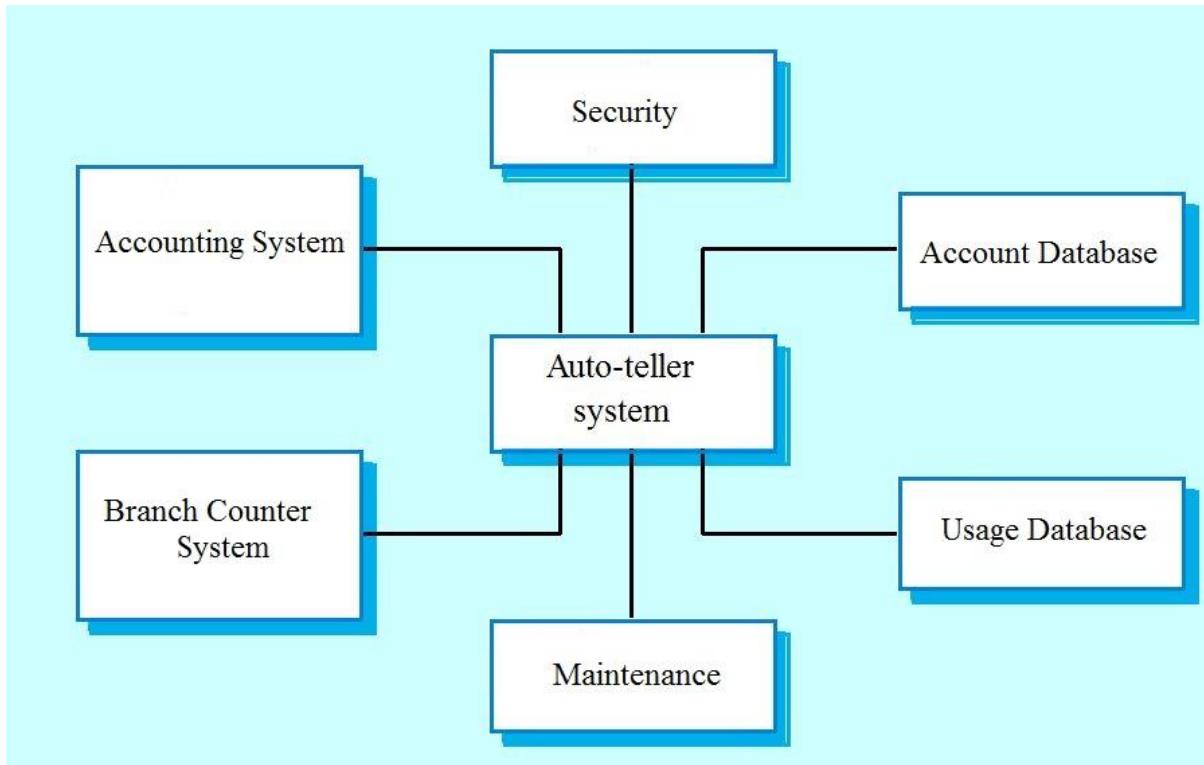
3. Which model in system modelling depicts the static nature of the system ?

- a) Behavioral Model
- b) Context Model
- c) Data Model
- d) Structural Model

4. Which perspective in system modelling shows the system or data architecture.

- a) Structural perspective
- b) Behavioral perspective
- c) External perspective
- d) All of the mentioned

5. Which system model is being depicted by the ATM operations shown below:



- a) Structural model
- b) Context model**
- c) Behavioral model
- d) Interaction model

6. Activity diagrams are used to model the processing of data.

- a) True**
- b) False

7. Model-driven engineering is just a theoretical concept. It cannot be converted into a working/executable code.

- a) True
- b) False**

8. The UML supports event-based modeling using _____ diagrams.

- a) Deployment
- b) Collaboration
- c) State chart**
- d) All of the mentioned

1. Which of the following diagram is not supported by UML considering Data-driven modeling ?
- a) Activity
 - b) Data Flow Diagram (DFD)**
 - c) State Chart
 - d) Component
2. _____ allows us to infer that different members of classes have some common characteristics.
- a) Realization
 - b) Aggregation
 - c) Generalization**
 - d) dependency
3. One creates Behavioral models of a system when you are discussing and designing the system architecture.
- a) True
 - b) False**
4. _____ & _____ diagrams of UML represent Interaction modeling.
- a) Use Case, Sequence**
 - b) Class, Object
 - c) Activity, State Chart
 - d) All of the mentioned
5. Which level of Entity Relationship Diagram (ERD) models all entities and relationships ?
- a) Level 1
 - b) Level 2**
 - c) Level 3
 - d) Level 4
6. _____ classes are used to create the interface that the user sees and interacts with as the software is used.
- a) Controller
 - b) Entity
 - c) Boundary**
 - d) Business

7. Which of the following statement is incorrect regarding the Class-responsibility-collaborator (CRC) modeling ?
- a) All use-case scenarios (and corresponding use-case diagrams) are organized into categories in CRC modelling
 - b) The review leader reads the use-case deliberately
 - c) Only developers in the review (of the CRC model) are given a subset of the CRC model index cards
 - d) All of the mentioned
8. A data object can encapsulates processes and operation as well.
- a) True
 - b) False
1. The two dimensions of spiral model are
- a) diagonal, angular
 - b) radial, perpendicular
 - c) radial, angular
 - d) diagonal, perpendicular
2. The Incremental Model is combination of elements of
- a) Build & FIX Model & Waterfall Model
 - b) Linear Model & RAD Model
 - c) Linear Model & Prototyping Model
 - d) Waterfall Model & RAD Model
3. Model preferred to create client/server applications is
- a) WINWIN Spiral Model
 - b) Spiral Model
 - c) Concurrent Model
 - d) Incremental Model
4. Identify the correct statement with respect to Evolutionary development:
- a) Evolutionary development usually has two flavors; exploratory development, and throw-away prototyping
 - b) Very large projects are usually done using evolutionary development based approach
 - c) It facilitates easy project management, through the high volume of documentation it generates
 - d) Sometimes the construction of a throw-away prototype is not followed by a re-implementation of the software system using a more structured approach

5. Spiral model was developed by

- a) Victor Bisili
- b) Berry Boehm**
- c) Bev Littlewood
- d) Roger Pressman

6. Software evolution does not comprises:

- a) Development activities
- b) Negotiating with client**
- c) Maintenance activities
- d) Re-engineering activities

7. Processes for evolving a software product depend on:

- a) Type of software to be maintained
- b) Development processes used
- c) Skills and experience of the people involved
- d) All of the mentioned**

8. Which technique is applied to ensure the continued evolution of legacy systems ?

- a) Forward engineering
- b) Reverse Engineering
- c) Reengineering
- d) Reverse Engineering and Reengineering**

9. Program modularization and Source code translation are the activities of _____

- a) Forward engineering
- b) Reverse Engineering
- c) Reengineering**
- d) Reverse Engineering and Reengineering

10. Reverse engineering is the last activity in a reengineering project.

- a) True
- b) False**

11. The cost of re-engineering is often significantly less than the costs of developing new software.

- a) True**
- b) False

1. A sociotechnical system is a system that includes
- a) people
 - b) software
 - c) hardware
 - d) all of the mentioned

2. Which layer is missing in the sociotechnical system stack as shown below:



- a) organizational layer
- b) application layer
- c) physical layer
- d) transport layer

3. Consider an example of a system which has a police command and control system that may include a geographical information system to provide details of the location of incidents. What kind of system the example represents?
- a) Complex System
 - b) Technical computer-based system
 - c) Sociotechnical System
 - d) Both Complex and Sociotechnical System

4. Which property of a sociotechnical system varies depending on how the component assemblies are arranged and connected?

- a) security
- b) usability
- c) volume
- d) reliability

5. Which property of a sociotechnical system depends on the technical system components, its operators, and its operating environment?

- a) security
- b) usability
- c) volume
- d) reliability

6. In a sociotechnical system, you need to consider reliability from perspectives namely:

- a) only software reliability
- b) only hardware reliability
- c) hardware and software reliability
- d) hardware, software and operator reliability

7. There are _____ overlapping stages in the lifetime of large and complex sociotechnical systems.

- a) two
- b) three
- c) four
- d) five

8. Sociotechnical systems are deterministic.

- a) True
- b) False

9. What are the two ways to view the human error of a sociotechnical system?

- a) hardware and software approach
- b) management and users approach
- c) person and systems approach
- d) all of the mentioned

10. Human and organizational factors such as organizational structure and politics have a significant effect on the operation of sociotechnical systems.

- a) True
- b) False

1. A characteristic of a software system that can lead to a system error is known as?

- a) Human error or mistake
- b) System fault
- c) System error
- d) System failure

2. An erroneous system state that can lead to system behavior that is unexpected by system users is known as?

- a) Human error or mistake
- b) System fault
- c) System error
- d) System failure

3. An event that occurs at some point in time when the system does not deliver a service as expected by its users is called _____

- a) Human error or mistake
- b) System fault
- c) System error
- d) System failure

4. A chemical plant system may detect excessive pressure and open a relief valve to reduce these pressures before an explosion occurs. What kind of dependability and security issue the example states?

- a) Hazard avoidance
- b) Damage limitation
- c) Hazard detection
- d) Hazard detection and removal

5. An aircraft engine normally includes automatic fire extinguishers. What kind of dependability and security issue the example states?

- a) Hazard avoidance
- b) Damage limitation
- c) Hazard detection
- d) Hazard detection and removal

6. An assessment of the worst possible damage that could result from a particular hazard is known as

- a) Risk

- b) Hazard probability
- c) Hazard severity
- d) Mishap

7. which of the following terms is a measure of the probability that the system will cause an accident?

- a) Risk
- b) Hazard probability
- c) Accident
- d) Damage

8. A weakness in a computer-based system that may be exploited to cause loss or harm is known as?

- a) Vulnerability
- b) Attack
- c) Threat
- d) Exposure

9. A password checking system that disallows user passwords that are proper names or words that are normally included in a dictionary is an example of _____ with respect to security systems.

- a) risk
- b) control
- c) attack
- d) asset

10. The safety of a system is a system attribute that reflects the system's ability to operate, normally or abnormally, without injury to people or damage to the environment.

- a) True
- b) False

1. How many stages are there in Risk-driven requirements specification?

- a) three
- b) four
- c) five
- d) six

2. Consider a case where the system is unavailable and cannot deliver its services to users. What type of failure is being described here?

- a) Loss of service
- b) Incorrect service delivery

- c) System/data corruption
- d) None of the mentioned

3. Consider a case where the failure of the system causes damage to the system itself or its data. What type of failure is being described here?

- a) Loss of service
- b) Incorrect service delivery
- c) System/data corruption
- d) None of the mentioned

4. POFOD stands for

- a) Possibility of failure of data
- b) Probability of failure of data
- c) Possibility of failure on demand
- d) Probability of failure on demand

5. Which reliability metric sets out the probable number of system failures that are likely to be observed relative to a certain time period?

- a) POFOD
- b) ROCOF
- c) AVAIL
- d) None of the mentioned

6. Which of the following is not a functional reliability requirement for a system?

- a) Checking requirements
- b) Recovery requirements
- c) Redundancy requirements
- d) Ambiguous requirements

7. To specify security requirements, one should identify the risks that are to be dealt with.

- a) True
- b) False

8. The aim of preliminary risk analysis and assessment process is to derive security requirements for the system as a whole.

- a) True
- b) False

9. At which stage of risk analysis specification, the additional security requirements take account of the technologies used in building the system and system design and implementation decisions?

- a) Preliminary risk analysis
- b) Life-cycle risk analysis**
- c) Operational risk analysis
- d) All of the mentioned

10. Which reliability requirements are concerned with maintaining copies of the system?

- a) Checking requirements
- b) Recovery requirements**
- c) Redundancy requirements
- d) Ambiguous requirements

1. Which of the following examples does not involve dependability engineering ?

- a) Medical Systems
- b) Power Systems
- c) Library Management**
- d) Telecommunications

2. What is the term for development process organised such that faults in the system are detected and repaired before delivery to the customer ?

- a) Fault Avoidance**
- b) Fault detection
- c) Fault tolerance
- d) None of the mentioned

3. What is the term for a system that is designed such that the faults in the delivered software do not result in system failure ?

- a) Fault Avoidance
- b) Fault detection
- c) Fault tolerance**
- d) None of the mentioned

4. Which process characteristic with respect to Dependability Engineering is mentioned by the statement: "The process should be understandable by people apart from process participants"?

- a) Diverse
- b) Documentable
- c) Auditable**
- d) None of the mentioned

5. Which of the following is not a Protection system ?
- a) System to stop a train if it passes a red light
 - b) System to indicate not returning of the library book
 - c) System to shut down a reactor if temperature/pressure are too high
 - d) None of the mentioned
6. The use of a well-defined, repeatable process is essential if faults in a system are to be minimized.
- a) True
 - b) False
7. Which of the following is a Strategy to achieve Software diversity ?
- a) Different programming languages
 - b) Different design methods and tools
 - c) Explicit specification of different algorithms
 - d) All of the mentioned
8. Exception handling is a mechanism to provide some fault avoidance.
- a) True
 - b) False
9. Which of the following is a bad practice of Dependable programming ?
- a) Limit the visibility of information in a program
 - b) Check array bounds
 - c) Check all inputs for validity
 - d) None of the mentioned
10. What is a Range check?
- a) Check that the input does not exceed some maximum size e.g. 40 characters for a name
 - b) Check that the input falls within a known range
 - c) Use information about the input to check if it is reasonable rather than an extreme value
 - d) None of the mentioned
1. Which of the following is a layer of protection for Security ?
- a) Platform-level protection
 - b) Application-level protection
 - c) Record-level protection
 - d) All of the mentioned

2. Security engineering is only concerned with maintenance of systems such that they can resist malicious attacks.

- a) True
- b) False

3. What are security controls ?

- a) Controls that are intended to ensure that attacks are unsuccessful
- b) Controls that are intended to detect and repel attacks
- c) Controls that are intended to support recovery from problems
- d) All of the mentioned

4. Controls that are intended to repel attacks is analogous to _____ in dependability engineering.

- a) Fault avoidance
- b) Fault tolerance
- c) Fault detection
- d) None of the mentioned

5. Controls that are intended to ensure that attacks are unsuccessful is analogous to _____ in dependability engineering.

- a) Fault avoidance
- b) Fault tolerance
- c) Fault detection
- d) Fault Recovery

6. What is Life cycle risk assessment ?

- a) Risk assessment before the system has been deployed
- b) Risk assessment while the system is being developed
- c) All of the mentioned
- d) None of the mentioned

7. A system resource that has a value and has to be protected is known as

- a) Asset
- b) Control
- c) Vulnerability
- d) None of the mentioned

8. An impersonation of an authorised user is an example of a security threat.

- a) True

b) False

9. The records of each patient that is receiving or has received treatment resembles which security concept ?

- a) Asset
- b) Threat
- c) Vulnerability
- d) Control

10. Circumstances that have potential to cause loss or harm is known as

- a) Attack
- b) Threat
- c) Vulnerability
- d) Control

1. Static Analysis involves executing a program.

- a) True
- b) False

2. Which of the following is a technique covered in Static Analysis ?

- a) Formal verification
- b) Model checking
- c) Automated program analysis
- d) All of the mentioned

3. Select the disadvantage of using Formal methods

- a) Concurrent systems can be analysed to discover race conditions that might lead to deadlock
- b) Producing a mathematical specification requires a detailed analysis of the requirements
- c) They require the use of specialised notations that cannot be understood by domain experts
- d) All of the mentioned

4. Which of the following is incorrect with respect to Model Checking?

- a) Model checking is particularly valuable for verifying concurrent systems
- b) Model checking is computationally very inexpensive
- c) The model checker explores all possible paths through the model
- d) All of the mentioned

5. Choose the fault class in which the following automated static analysis check would fall: "Variables declared but never used".

- a) Control Faults
- b) Data Faults**
- c) Input/Output Faults
- d) Interface faults

6. Choose the fault class in which the following automated static analysis check would fall: "Unreachable code".

- a) Control Faults**
- b) Data Faults
- c) Input/Output Faults
- d) Interface faults

7. Choose the fault class in which the following automated static analysis check would fall: "Non-usage of the results of functions".

- a) Storage management faults
- b) Data Faults
- c) Input/Output Faults
- d) Interface faults**

8. Static analysis is now routinely used in the development of many safety and security critical systems.

- a) True**
- b) False

9. Which level of Static Analysis allows specific rules that apply to a program to be checked ?

- a) Characteristic error checking
- b) User-defined error checking**
- c) Assertion checking
- d) All of the mentioned

10. Choose the fault class in which the following automated static analysis check would fall: "Pointer Arithmetic".

- a) Storage management faults**
- b) Data Faults
- c) Input/Output Faults
- d) Interface faults

1. Software Maintenance includes

 - a) Error corrections
 - b) Enhancements of capabilities
 - c) Deletion of obsolete capabilities
 - d) All of the mentioned**
2. Maintenance is classified into how many categories ?

 - a) two
 - b) three
 - c) four**
 - d) five
3. The modification of the software to match changes in the ever changing environment, falls under which category of software maintenance?

 - a) Corrective
 - b) Adaptive**
 - c) Perfective
 - d) Preventive
4. How many phases are there in Taute Maintenance Model?

 - a) six
 - b) seven
 - c) eight**
 - d) nine
5. What type of software testing is generally used in Software Maintenance?

 - a) Regression Testing**
 - b) System Testing
 - c) Integration Testing
 - d) Unit Testing
6. Regression testing is a very expensive activity.

 - a) True**
 - b) False
7. Selective retest techniques may be more economical than the “retest-all”technique.How many selective retest techniques are there?

 - a) two
 - b) three**
 - c) four
 - d) five
8. Which selective retest technique selects every test case that causes a modified program to produce a different output than its original version?

 - a) Coverage
 - b) Minimization
 - c) Safe**
 - d) Maximization

9. _____ measures the ability of a regression test selection technique to handle realistic applications.
- a) Efficiency
 - b) Precision
 - c) Generality**
 - d) Inclusiveness
10. Which regression test selection technique exposes faults caused by modifications?
- a) Efficiency
 - b) Precision
 - c) Generality
 - d) Inclusiveness**
11. The process of generating analysis and design documents is known as
- a) Software engineering
 - b) Software re-engineering
 - c) Reverse engineering**
 - d) Re-engineering
12. What is a software patch?
- a) Required or Critical Fix
 - b) Emergency Fix**
 - c) Daily or routine Fix
 - d) None of the mentioned
13. Which one of the following is not a maintenance model?
- a) Waterfall model**
 - b) Reuse-oriented model
 - c) Iterative enhancement model
 - d) Quick fix model
14. What does ACT stands for in Boehm model for software maintenance?
- a) Actual change track
 - b) Annual change track
 - c) Annual change traffic**
 - d) Actual change traffic
15. Choose the suitable options with respect to regression testing.
- a) It helps in development of software
 - b) It helps in maintenance of software
 - c) It helps in development & maintenance of software**
 - d) none of the mentioned
16. What are legacy systems?
- a) new systems
 - b) old systems**
 - c) under-developed systems
 - d) none of the mentioned

17. Which of the following manuals is not a user documentation?
- a) Beginner's Guide
 - b) Installation guide
 - c) Reference Guide
 - d) SRS**
18. Which of the following manuals is a user documentation?
- a) SRS -Software Requirement Specification
 - b) SDD -Software Design Document
 - c) System Overview**
 - d) None of the mentioned
19. The process of transforming a model into source code is known as
- a) Forward engineering**
 - b) Reverse engineering
 - c) Re-engineering
 - d) Reconstructing
20. How many stages are there in Iterative-enhancement model used during software maintenance?
- a) two
 - b) three**
 - c) four
 - d) five
- 21.** Which of the following is a field related to certification ?
- a) Person
 - b) Process
 - c) Product
 - d) All of the mentioned**
22. Which of the following is a software process certification ?
- a) JAVA Certified
 - b) IBM Certified
 - c) ISO-9000**
 - d) Microsoft Certified
23. Which standard is followed in aviation industry ?
- a) CTRADO-172B
 - b) RTCADO-178B**
 - c) RTRADO-178B
 - d) CTCADO-178B
24. How many levels, does the DO-178B certification targeted by RTCADO-178B has ?
- a) two
 - b) three
 - c) four
 - d) five**

25. Third Party Certification for software standards is based on
- a) UI 1998, Second Edition
 - b) UT 1998, Second Edition
 - c) UI 1992, Second Edition
 - d) UI 1996, Second Edition
26. What are the goals to gain Laboratory Accreditation ?
- a) Increase availability of testing services through third-party laboratories
 - b) Increase availability of testing market to encourage development of software testing industry
 - c) Reduce cost by increasing supply of testing services
 - d) All of the mentioned
27. National Voluntary Laboratory Accreditation Program approve accreditation in
- a) Environmental standards
 - b) Computers and electronics
 - c) Product testing
 - d) All of the mentioned
28. CSTE stands for
- a) Certified Software Technology
 - b) Certified Software Tester
 - c) Certified Software Trainee
 - d) None of the mentioned
29. CSQA stands for
- a) Certified Software Quality Analyst
 - b) Certified Software Quality Approved
 - c) Certified Software Quality Acclaimed
 - d) None of the mentioned
30. Which of the following companies provide certifications for their own products?
- a) CISCO
 - b) ORACLE
 - c) Microsoft
 - d) All of the mentioned
31. “Robustness” answers which of the following description?
- a) CASE tools be used to support the process activities
 - b) Process errors are avoided or trapped before they result in product errors
 - c) Defined process is acceptable and usable by the engineers responsible for producing the software
 - d) Process continues in spite of unexpected problems
32. Process improvement is the set of activities, methods, and transformations that developers use to develop and maintain information systems.
- a) True
 - b) False

33. "Understandability" answers which of the following description?

- a) **The extent to which the process is explicitly defined**
- b) Process errors are avoided or trapped before they result in product errors
- c) Defined process is acceptable and usable by the engineers responsible for producing the software product
- d) Process continues in spite of unexpected problems

34. How many stages are there in process improvement?

- a) **three**
- b) four
- c) five
- d) six

35. In which stage of process improvement bottlenecks and weaknesses are identified?

- a) Process measurement
- b) **Process analysis**
- c) Process change
- d) None of the mentioned

36. Prototypes and 4GL business systems are categorized under which process?

- a) **Informal**
- b) Managed
- c) Methodical
- d) Supported

37. The documentation of a process which records the tasks, the roles and the entities used is called

- a) Process metric
- b) Process analysis
- c) **Process modelling**
- d) None of the mentioned

38. It is always best to start process analysis with a new test model.

- a) True
- b) **False**

39. What is a tangible output of an activity that is predicted in a project plan?

- a) **Deliverable**
- b) Activity
- c) Condition
- d) Process

40. What is often undefined and is left to the ingenuity of the project managers and engineers?

- a) Role
- b) **Exception**
- c) Activity
- d) Process

41. Which of the following is not a part of process change?
- a) Introducing new practices, methods or processes
 - b) Introducing new team members to existing project**
 - c) Introducing or removing deliverable
 - d) Introducing new roles or responsibilities
42. The Capability Maturity Model (CMM) is a continuous model.
- a) True
 - b) False**
43. The CMMI assessment is based on a x-point scale. What is the value of x?
- a) 0
 - b) 2
 - c) 4
 - d) 6**
44. Which of the following is not included in failure costs?
- a) rework
 - b) repair
 - c) failure mode analysis
 - d) none of the mentioned**
45. Which requirements are the foundation from which quality is measured?
- a) Hardware
 - b) Software**
 - c) Programmers
 - d) None of the mentioned
46. Which of the following is not a SQA plan for a project?
- a) evaluations to be performed
 - b) amount of technical work**
 - c) audits and reviews to be performed
 - d) documents to be produced by the SQA group
47. Degree to which design specifications are followed in manufacturing the product is called
- a) Quality Control
 - b) Quality of conformance**
 - c) Quality Assurance
 - d) None of the mentioned
48. Which of the following is not included in External failure costs?
- a) testing**
 - b) help line support
 - c) warranty work
 - d) complaint resolution
49. Which of the following is not an appraisal cost in SQA?
- a) inter-process inspection
 - b) maintenance**

- c) quality planning**
- d) testing
50. Who identifies, documents, and verifies that corrections have been made to the software?
- Project manager
 - Project team
 - c) SQA group**
 - All of the mentioned
51. The primary objective of formal technical reviews is to find _____ during the process so that they do not become defects after release of the software.
- a) errors**
- equivalent faults
 - failure cause
 - none of the mentioned
- 52.** What is not included in prevention costs?
- quality planning
 - formal technical reviews
 - test equipment
 - d) equipment calibration and maintenance**
53. Software quality assurance consists of the auditing and reporting functions of management.
- a) True**
- b) False
54. CMM stands for
- Capability Management Module
 - Conservative Maturity Model
 - Capability Maturity Module
 - d) Capability Maturity Model**
55. The ISO 9000 series of standards is a program that can be used for external quality assurance purposes.
- True
 - b) False**
56. According to ISO 9001, the causes of nonconforming product should be
- deleted
 - eliminated
 - identified
 - d) eliminated and identified**
57. CO policy in CMM means
- The leadership practices in Commitment to Perform
 - The organizational structure (groups) practices in Ability to Perform
 - c) The policy practices in Commitment to Perform**
 - The planning practices in Commitment to Perform

58. ISO 9001 is not concerned with _____ of quality records.
- a) collection
 - b) maintenance
 - c) verification**
 - d) dis-positioning
59. Which of the following is not a maturity level in CMM?
- a) Design**
 - b) Repeatable
 - c) Managed
 - d) Optimizing
60. In CMM, the life cycle activities of requirements analysis, design, code, and test are described in
- a) Software Product Engineering**
 - b) Software Quality Assurance
 - c) Software Subcontract Management
 - d) Software Quality Management
61. Which of the following requires design control measures, such as holding and recording design reviews and qualification tests?
- a) CMM
 - b) ISO 9001
 - c) ISO 9000-3**
 - d) None of the mentioned
62. The CMM emphasizes
- a) continuous process improvement
 - b) the need to record information**
 - c) the need to accept quality system
 - d) none of the mentioned
63. _____ states that, where appropriate, adequate statistical techniques are identified and used to verify the acceptability of process capability and product characteristics.
- a) ISO 9001**
 - b) ISO 9000-4
 - c) CMM
 - d) All of the mentioned
64. Object oriented analysis and design can be handled by the one who knows UML.
- a) True
 - b) False**
65. At Conceptual level Class diagrams should include
- a) operations only
 - b) attributes only**
 - c) both operations and attributes
 - d) none of the mentioned

66. Select the statement true for activity diagrams.
- a) They can be used to discover parallel activities
 - b) They are used to depict workflow for a particular business activity
 - c) Activity diagram do not tell who does what and are difficult to trace back to object models
 - d) All of the mentioned**
67. Constraints can be represented in UML by
- a) {text}**
 - b) [text].
 - c) Constraint
 - d) None of the mentioned
68. What is an object?
- a) An object is an instance of a class**
 - b) An object includes encapsulation of data
 - c) An object is not an instance of a class
 - d) All of the mentioned
69. What is an abstract class?
- a) A class that has direct instances, but whose descendants may have direct instances
 - b) A class that has direct instances, but whose descendants may not have direct instances
 - c) A class that has no direct instances, but whose descendants may have direct instances**
 - d) All of the mentioned
70. Which of the following are the valid relationships in Use Case Diagrams
- a) Generalization
 - b) Include
 - c) Extend
 - d) All of the mentioned**
71. Which of the following statement(s) is true about interaction diagrams?
- a) Interaction diagrams are at their best when they deal with one main design flow and not multiple variants that can happen
 - b) Interaction diagrams are good at designing part or all of one use case's functionality across multiple objects
 - c) Interaction diagrams allow the analyst to show iteration and conditional execution for messaging between objects
 - d) All of the mentioned**
72. UML interfaces are used to:
- a) specify required services for types of objects**
 - b) program in Java, but not in C++ or Smalltalk
 - c) define executable logic to reuse across classes
 - d) define an API for all classes

73. Referring to the attached diagram, the arrow indicates:

- a) **Navigability**
- b) Dependency
- c) Association
- d) Refers to

74. Which of the following is a building block of UML?

- a) Things
- b) Relationships
- c) Diagrams
- d) **All of the mentioned**

75. Classes and interfaces are a part of

- a) **Structural things**
- b) Behavioral things
- c) Grouping things
- d) Annotational things

76. What is a collection of operations that specify a service of a class or component?

- a) Use Case
- b) Actor
- c) **Interface**
- d) Relationship

77. What is a physical element that exists at runtime in UML?

- a) **A node**
- b) An interface
- c) An activity
- d) None of the mentioned

78. What can be requested from any object of the class to affect behavior?

- a) object
- b) attribute
- c) **operation**
- d) instance

79. Which things are dynamic parts of UML models?

- a) Structural things
- b) **Behavioral things**
- c) Grouping things
- d) Annotational things

80. Which diagram in UML emphasizes the time-ordering of messages?

- a) Activity
- b) **Sequence**
- c) Collaboration
- d) Class

81. Object diagram captures the behavior of a single use case.
- a) True
 - b) False**
82. If you are working on real-time process control applications or systems that involve concurrent processing, you would use a
- a) Activity diagram
 - b) Sequence diagram
 - c) Statechart diagram**
 - d) Object diagram
83. Which diagram shows the configuration of run-time processing elements?
- a) Deployment diagram**
 - b) Component diagram
 - c) Node diagram
 - d) ER-diagram
84. Which things in UML are the explanatory parts of UML models?
- a) Structural things
 - b) Behavioral things
 - c) Grouping things
 - d) Annotational things**
85. Which of the following term is best defined by the statement:"a structural relationship that specifies that objects of one thing are connected to objects of another"?
- a) Association**
 - b) Aggregation
 - c) Realization
 - d) Generalization
86. What refers to the value associated with a specific attribute of an object and to any actions or side?
- a) Object
 - b) State**
 - c) Interface
 - d) None of the mentioned
87. Which of the following UML diagrams has a static view?
- a) Collaboration
 - b) Use case**
 - c) State chart
 - d) Activity

88. What type of core-relationship is represented by the symbol in the figure below?



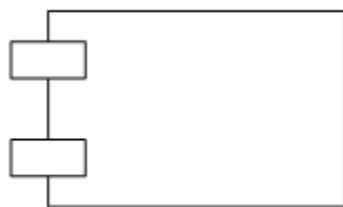
a) Aggregation

b) Dependency

c) Generalization

d) Association

89. Which core element of UML is being shown in the figure?



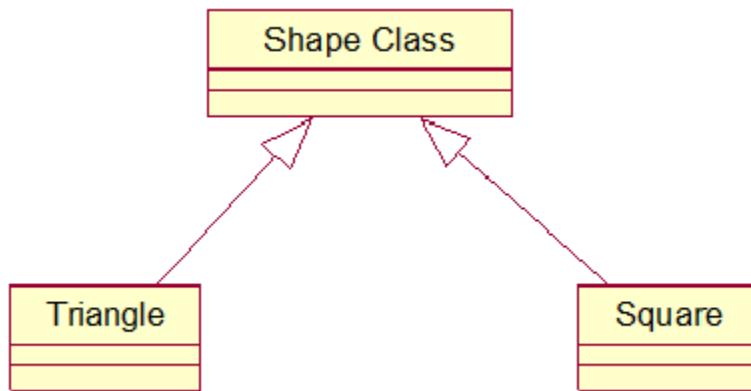
a) Node

b) Interface

c) Class

d) Component

90. What type of relationship is represented by Shape class and Square ?



a) Realization

b) Generalization

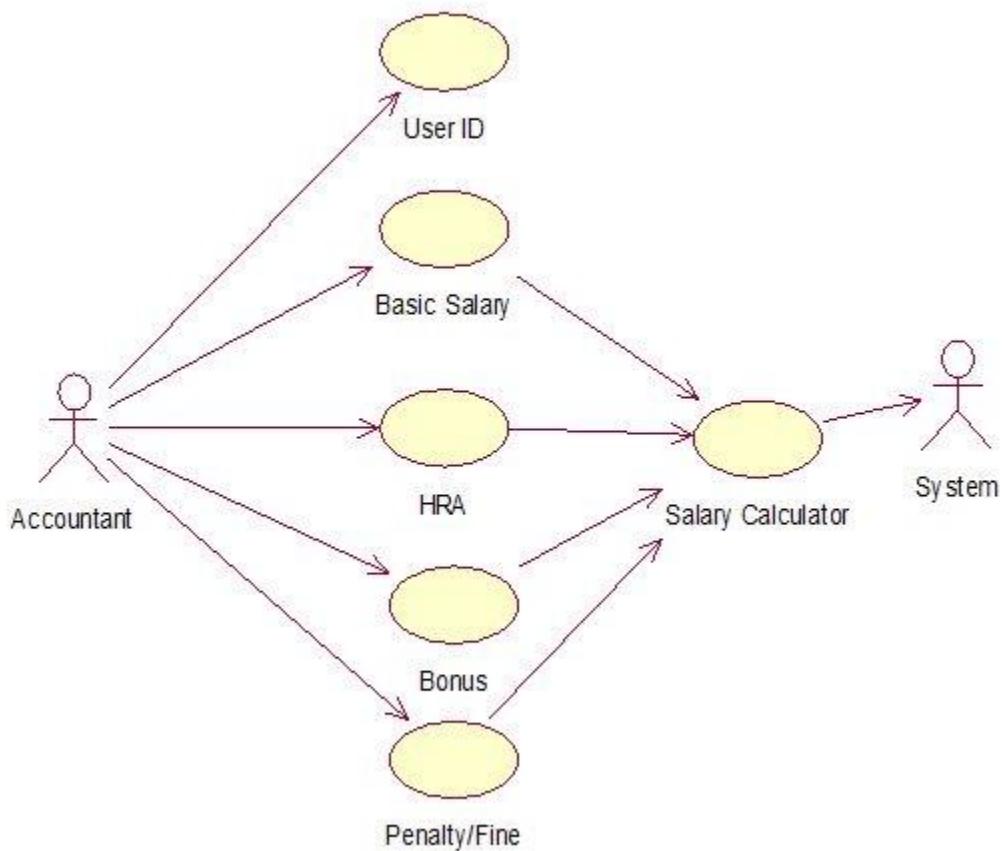
c) Aggregation

d) Dependency

91. Which diagram in UML shows a complete or partial view of the structure of a modeled system at a specific time?

- a) Sequence Diagram
 - b) Collaboration Diagram
 - c) Class Diagram
 - d) Object Diagram**
92. Interaction Diagram is a combined term for
- a) Sequence Diagram + Collaboration Diagram**
 - b) Activity Diagram + State Chart Diagram
 - c) Deployment Diagram + Collaboration Diagram
 - d) None of the mentioned
93. Structure diagrams emphasize the things that must be present in the system being modeled.
- a) True**
 - b) False
94. Which of the following diagram is time oriented?
- a) Collaboration
 - b) Sequence**
 - c) Activity
 - d) None of the mentioned
95. How many diagrams are here in Unified Modelling Language?
- a) six
 - b) seven
 - c) eight
 - d) nine**

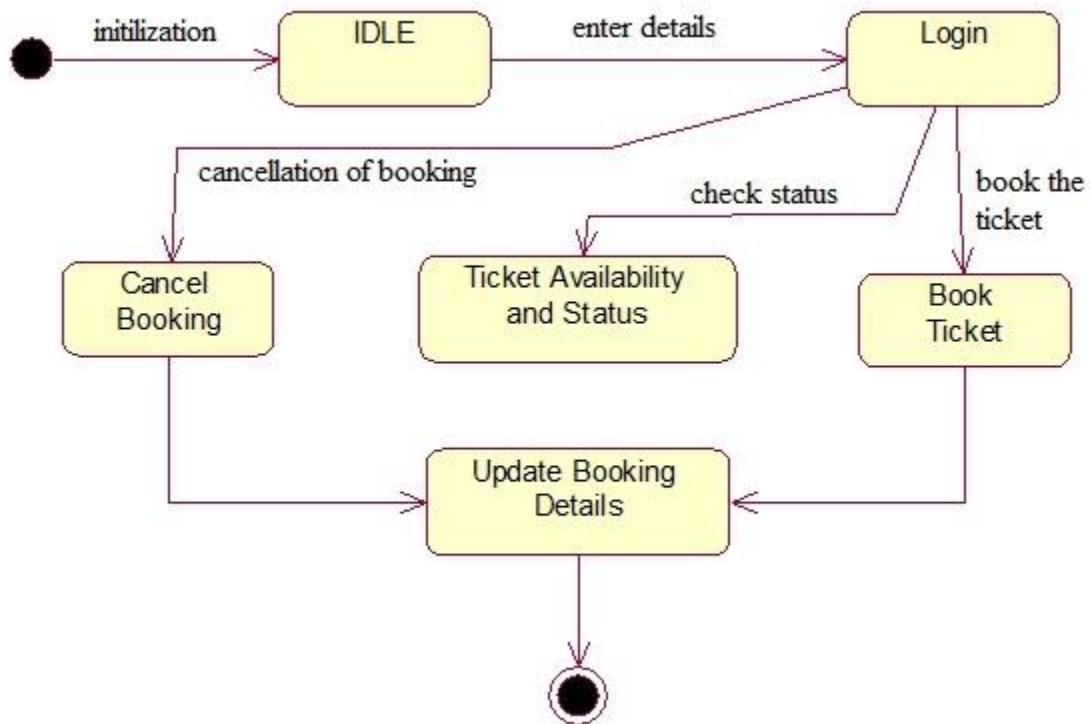
96. Which UML diagram is shown below?



a) Use Case

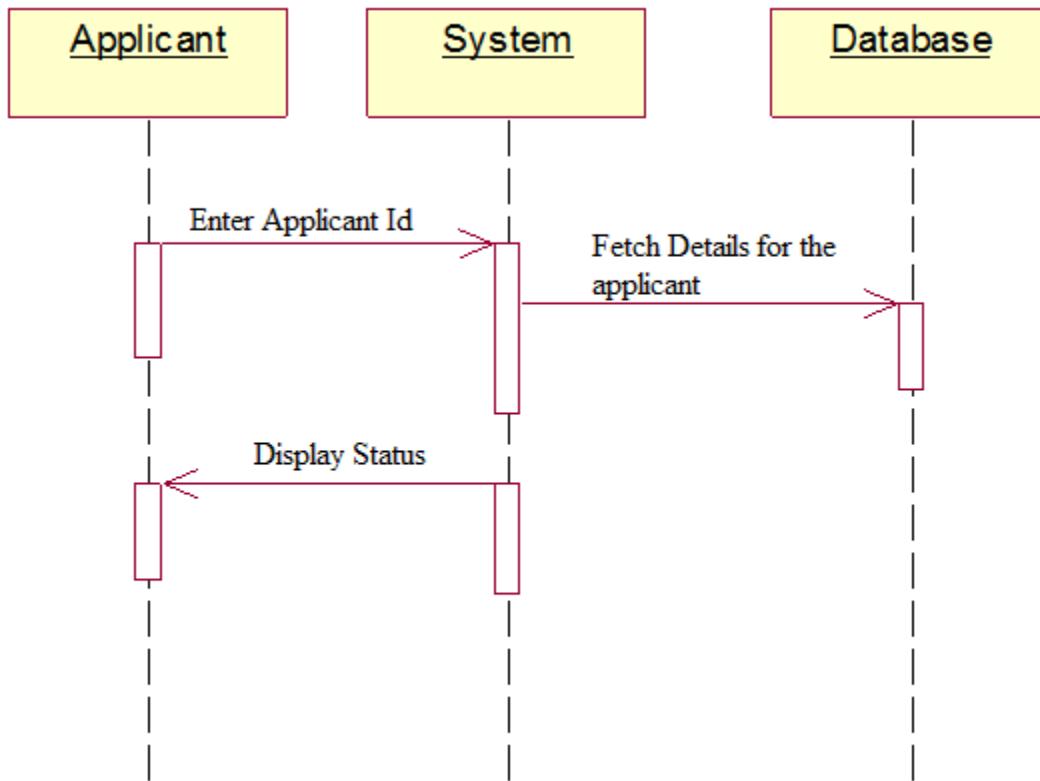
b) Collaboration Diagram

97. Which UML diagram is shown below?



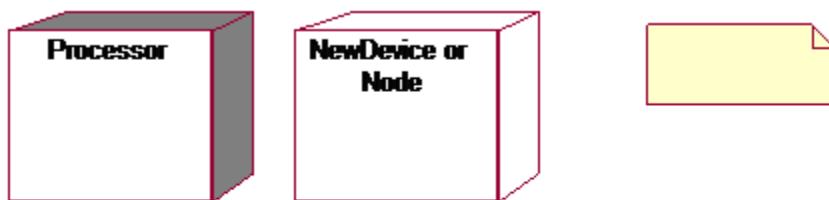
- a) Use Case
- b) State Chart**
- c) Activity
- d) Object Diagram

98. 4. Which UML diagram is shown below?



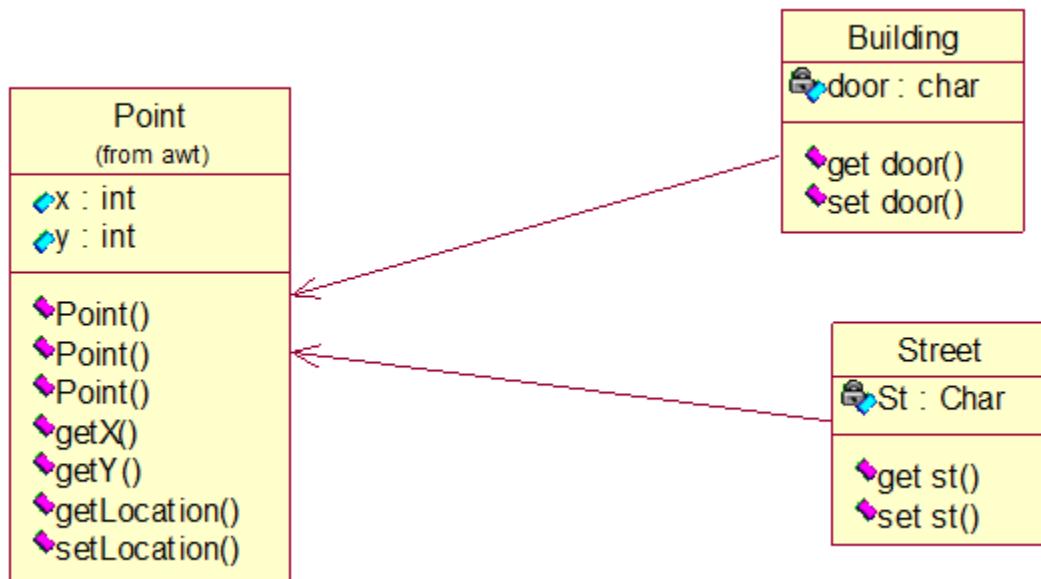
- a) Use Case
- b) Collaboration Diagram
- c) **Sequence Diagram**

99. Which UML diagram's symbols are shown below?



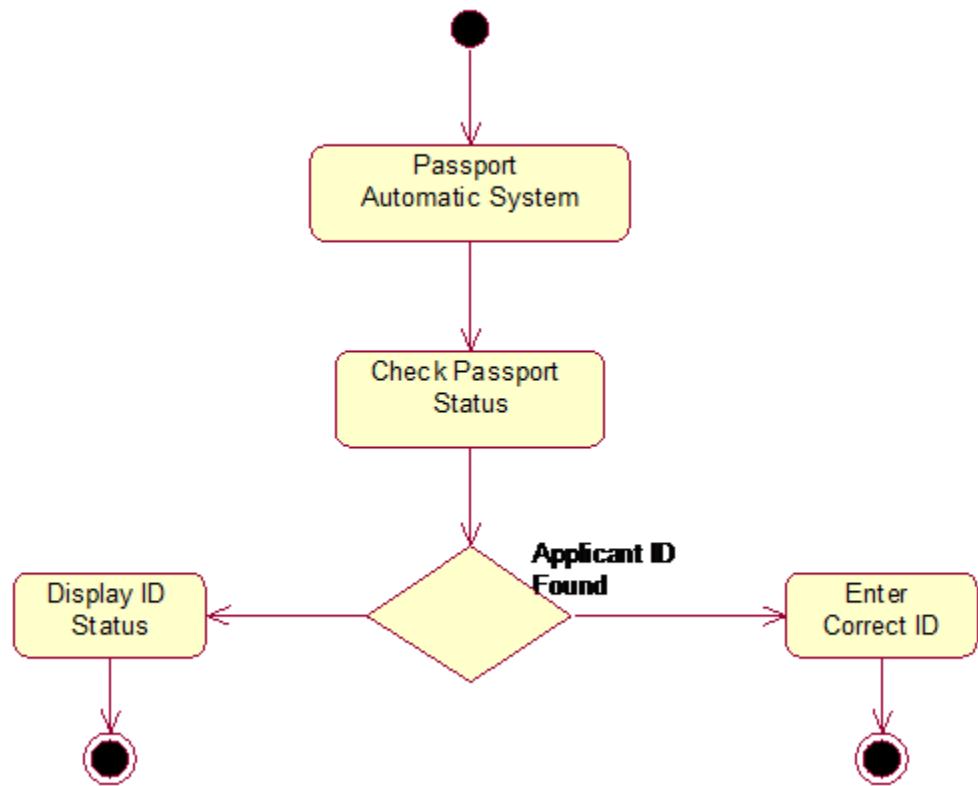
- a) **Deployment diagram**
- b) Collaboration Diagram
- c) Component Diagram
- d) Object Diagram

100. Which UML diagram is shown below?



- a) Deployment diagram
- b) Collaboration Diagram
- c) Object Diagram
- d) Class Diagram**

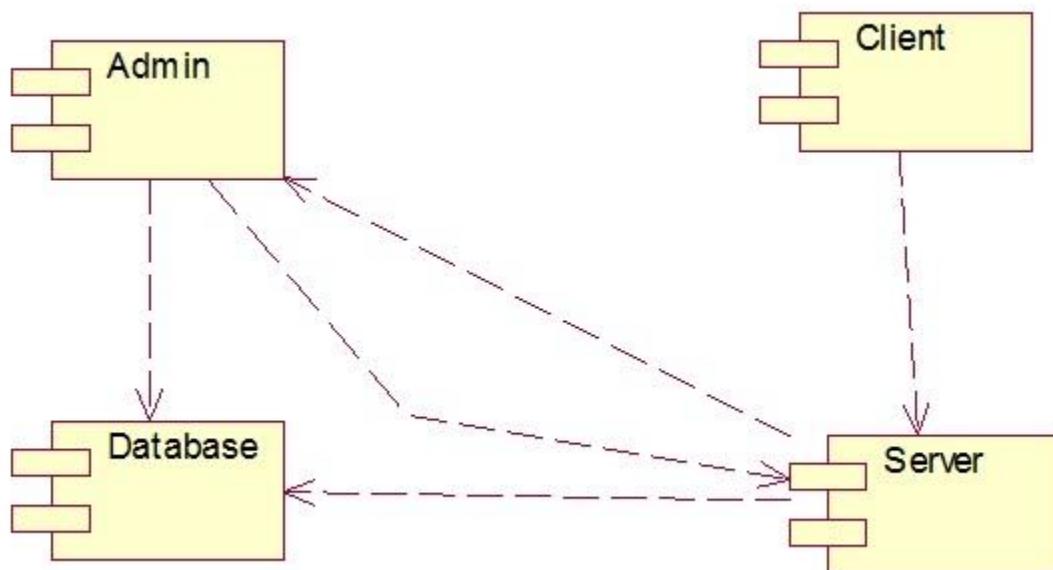
101. Which UML diagram is shown below?



a) Activity

b) State chart

102. Which UML diagram is shown below?



a) Component

- b) Deployment
- c) Use Case
- d) DFD

103. Which of the following is not needed to develop a system design from concept to detailed object-oriented design?

- a) Designing system architecture
- b) Developing design models
- c) Specifying interfaces

d) Developing a debugging system

104. Which of the following is a dynamic model that shows how the system interacts with its environment as it is used?

- a) system context model
- b) interaction model**
- c) environmental model
- d) both system context and interaction

105. Which of the following is a structural model that demonstrates the other systems in the environment of the system being developed?

a) system context model

- b) interaction model
- c) environmental model
- d) both system context and interaction

106. Which of the following come under system control?

- a) Reconfigure
- b) Shutdown
- c) Powersave
- d) All of the mentioned**

107. We use _____ where various parts of system use are identified and analyzed in turn.

- a) tangible entities
- b) scenario-based analysis**
- c) design-based analysis
- d) none of the mentioned

108. Which model describes the static structure of the system using object classes and their relationships?

- a) Sequence model
- b) Subsystem model
- c) Dynamic model
- d) Structural model**

109. Which model shows the flow of object interactions?

- a) Sequence model**
- b) Subsystem model

- c) Dynamic model
- d) Both Sequence and Dynamic model

110. If the system state is Shutdown then it can respond to which of the following message?

- a) restart()
- b) reconfigure()
- c) powerSave()

d) all of the mentioned

111. Which message is received so that the system moves to the Testing state, then the Transmitting state, before returning to the Running state?

- a) signalStatus()
- b) remoteControl()
- c) reconfigure()

d) reportStatus()

112. Open source development involves making the source code of a system publicly available.

- a) True**
- b) False

113. Which of the following is not the primary objectives in the analysis model?

- a) describing the customer complaints
- b) establishing a basis for the creation of a software design
- c) defining a set of requirements that can be validated once the software is built

d) none of the mentioned

114. A description of each function presented in the DFD is contained in a _____

- a) data flow
- b) process specification**
- c) control specification
- d) data store

115. Which diagram indicates the behaviour of the system as a consequence of external events?

- a) data flow diagram
- b) state transition diagram**
- c) control specification diagram
- d) workflow diagram

116. A data model contains

- a) data object
- b) attributes
- c) relationships

d) all of the mentioned

117. _____ defines the properties of a data object and take on one of the three different characteristics.

- a) data object

b) attributes

- c) relationships
- d) data object and attributes

118. The _____ of a relationship is 0 if there is no explicit need for the relationship to occur or the relationship is optional.

a) modality

- b) cardinality
- c) entity
- d) structured analysis

119. A _____ is a graphical representation that depicts information flow and the transforms that are applied as data moves from input to output.

- a) data flow diagram
- b) state transition diagram**
- c) control specification
- d) workflow diagram

120. A data condition occurs whenever a data is passed to an input element followed by a processing element and the result in control output.

a) True

- b) False

121. The _____ enables the software engineer to develop models of the information domain and functional domain at the same time

- a) data flow diagram**
- b) state transition diagram
- c) control specification
- d) activity diagram

122. The _____ contains a state transition diagram that is a sequential specification of behavior.

- a) data flow diagram
- b) state transition diagram
- c) control specification**
- d) workflow diagram

123. Which of the following is not a construct?

- a) sequence
- b) condition
- c) repetition
- d) selection**

124. Which of the following steps is applied to develop a decision table?

- a) List all actions that can be associated with a specific procedure
- b) List all conditions during execution of the procedure
- c) Define rules by indicating what action(s) occurs for a set of conditions
- d) All of the mentioned**

125. _____ is a pidgin(simplified version of a language that develops as a means of communication between two or more groups that do not have a language in common)

- a) program design language
- b) structured English
- c) pseudocode

d) all of the mentioned

126. Which of the following term is best defined by the statement:"The ability to represent local and global data is an essential element of component-level design."?

a) Data representation

- b) Logic verification
- c) "Code-to" ability
- d) Automatic processing

127. A software component

- a) Implements some functionality
- b) Has explicit dependencies through provides and required interfaces
- c) Communicates through its interfaces only

d) All of the mentioned

128. Which diagram evolved from a desire to develop a procedural design representation that would not allow violation of the structured constructs?

- a) State transition diagram

b) Box diagram

- c) ER diagram
- d) None of the mentioned

129. A _____ executes the loop task first, then tests a condition and repeats the task until the condition fails.

a) repeat until

- b) condition
- c) do while tests
- d) if then-else

130. Which of the following is not a characteristics of box diagram?

- a) functional domain
- b) arbitrary transfer of control is impossible
- c) recursion is easy to represent

d) providing a notation that translates actions and conditions

131. The_____ is represented as two processing boxes connected by an line (arrow) of control.

- a) Repetition
- b) Sequence**
- c) Condition
- d) None of the mentioned

132. Which of the following term is best defined by the statement "Notation that can be input directly into a computer-based development system offers significant benefits."?

a) Machine readability

- b) Maintainability
- c) Structure enforcement
- d) Overall simplicity

133. Which of the following is golden rule for interface design?

- a) Place the user in control
- b) Reduce the user's memory load
- c) Make the interface consistent

d) All of the mentioned

134. Which of the following is not a design principle that allow the user to maintain control?

- a) Provide for flexible interaction
- b) Allow user interaction to be interrupt-able and undo-able
- c) Show technical internals from the casual user**
- d) Design for direct interaction with objects that appear on the screen

135. Which of the following is not a user interface design process?

- a) User, task, and environment analysis and modeling
- b) Interface design
- c) Knowledgeable, frequent users**
- d) Interface validation

136. When users are involved in complex tasks, the demand on _____ can be significant.

- a) short-term memory**
- b) shortcuts
- c) objects that appear on the screen
- d) all of the mentioned

137. Which of the following option is not considered by the Interface design?

- a) the design of interfaces between software components
- b) the design of interfaces between the software and human producers and consumers of information
- c) the design of the interface between two computers**
- d) all of the mentioned

138. A software might allow a user to interact via

- a) keyboard commands
- b) mouse movement
- c) voice recognition commands

d) all of the mentioned

139. A software engineer designs the user interface by applying an iterative process that draws on predefined design principles.

a) True

b) False

140. What incorporates data, architectural, interface, and procedural representations of the software?

- a) design model
- b) user's model
- c) mental image
- d) system image

141. What establishes the profile of end-users of the system?

- a) design model
- b) user's model
- c) mental image
- d) system image

142. What combines the outward manifestation of the computer-based system , coupled with all supporting information that describe system syntax and semantics?

- a) mental image
- b) interface design
- c) system image
- d) interface validation

143. What do you understand by V&V in software testing?

- a) Verified Version
- b) Version Validation
- c) Verification and Validation
- d) Version Verification

144. In static test techniques, behavioral and performance properties of the program are observed.

- a) True
- b) False

145. Which granularity level of testing checks the behavior of module cooperation?

- a) Unit Testing
- b) Integration Testing
- c) Acceptance Testing
- d) Regression Testing

146. Which test refers to the retesting of a unit, integration and system after modification, in order to ascertain that the change has not introduced new faults?

- a) Regression Test
- b) Smoke Test
- c) Alpha Test
- d) Beta Test

147. Which of the following is a black box testing strategy?

- a) All Statements Coverage
- b) Control Structure Coverage
- c) Cause-Effect Graphs
- d) All Paths Coverage

148. A set of inputs, execution preconditions and expected outcomes is known as a
- a) Test plan
 - b) Test case**
 - c) Test document
 - d) Test Suite

149. In which test design each input is tested at both ends of its valid range and just outside its valid range?

- a) Boundary value testing**
- b) Equivalence class partitioning
- c) Boundary value testing AND Equivalence class partitioning
- d) Decision tables

150. A white box test scales up well at different granularity levels of testing.

- a) True
- b) False**

151. When does the testing process stops?

- a) When resources (time and budget) are over
- b) When some coverage is reached
- c) When quality criterion is reached**
- d) Testing never ends

152. Which of the following is not a part of a test design document?

- a) Test Plan
- b) Test Design Specification
- c) Test Case Specification
- d) Test Log**

153. Specifying a set of test cases or test paths for each item to be tested at that level is known as

- a) Test case generation
- b) Test case design
- c) ALL of the mentioned**
- d) None of the mentioned

154. Acceptance & system test planning are a part of architectural design.

- a) True
- b) False**

155. PRD stands for

- a) Product Requirement Document**
- b) Project Requirement Document
- c) Product Restrictions Document
- d) None of the mentioned

156. Which mechanism is applied to use a design pattern in an OO system?

- a) Inheritance
- b) Composition

c) All of the mentioned

d) None of the mentioned

157. Design patterns does not follow the concept of software reuse.

a) True

b) False

158. The use of design patterns for the development of object-oriented software has important implications for

a) Component-based software engineering

b) Reusability in general

c) All of the mentioned

d) None of the mentioned

159. Which of the following is a design pattern?

a) Behavioral

b) Structural

c) Abstract Factory

d) All of the mentioned

160. You want to minimize development cost by reusing methods? Which design pattern would you choose?

a) Adapter Pattern

b) Singleton Pattern

c) Delegation pattern

d) Immutable Pattern

161. You want to avoid multiple inheritance. Which design pattern would you choose?

a) Abstraction-Occurrence Pattern

b) Player-Role Pattern

c) General Hierarchy Pattern

d) Singleton Pattern

162. The recurring aspects of designs are called design

a) patterns

b) documents

c) structures

d) methods

163. Design pattern is a solution to a problem that occurs repeatedly in a variety of contexts.

a) True

b) False

164. Which pattern prevents one from creating more than one instance of a variable?

a) Factory Method

b) Singleton

c) Observer

d) None of the mentioned

165. Facade pattern promotes weak coupling between subsystem and its clients.

a) True

b) False

166. Which design pattern defines one-to-many dependency among objects?

a) Singleton pattern

b) Facade Pattern

c) **Observer pattern**

d) Factory method pattern

167. Facade pattern couples a subsystem from its clients.

a) True

b) **False**

168. In factory method pattern, the framework must instantiate classes but it only knows about the abstract classes, which it cannot initiate. How would one solve this problem?

a) encapsulating the knowledge of which document subclass to is to be created and

b) moving this knowledge out of the framework

c) instantiating the application specific documents without knowing their class

d) **all of the mentioned**

169. Reuse-based software engineering is a software engineering strategy where the development process is geared to reusing existing software.

a) True

b) False

170. The open source movement has meant that there is a huge reusable code base available at

a) free of cost

b) **low cost**

c) high cost

d) short period of time

171. Consider the example and categorize it accordingly, “A pattern-matching system developed as part of a text-processing system may be reused in a database management system”.

a) Application system reuse

b) **Component reuse**

c) Object and function reuse

d) None of the mentioned

172. COTS stands for

a) **Commercial Off-The-Shelf systems**

b) Commercial Off-The-Shelf states

c) Commercial Off-The-System state

d) None of the mentioned

173. COTS product reuse means

a) Class and function libraries that implement commonly used abstractions are available for reuse

- b) Shared components are woven into an application at different places when the program is compiled
 - c) Large-scale systems that encapsulate generic business functionality and rules are configured for an organization
- d) Systems are developed by configuring and integrating existing application systems**
174. .NET are specific to which platform?
- a) Java
 - b) Mac-OS
 - c) Microsoft**
 - d) LINUX
175. Which of the following is a generic structure that is extended to create a more specific subsystem or application?
- a) Software reuse
 - b) Object-oriented programming language
 - c) Framework**
 - d) None of the mentioned
176. “An ordering system may be adapted to cope with a centralized ordering process in one company and a distributed process in another.” Which category the example belong to?
- a) Process specialization**
 - b) Platform specialization
 - c) Environment specialization
 - d) Functional specialization
177. What are generic application systems that may be designed to support a particular business type, activity, or sometimes a complete enterprise?
- a) COTS-solution systems**
 - b) COTS-integrated systems
 - c) ERP systems
 - d) Both COTS-solution and COTS-integrated systems
178. . Which of the following is not an advantages of software reuse?
- a) lower costs
 - b) faster software development
 - c) high effectiveness**
 - d) lower risks
179. ERP stands for
- a) Effective Reuse Planning
 - b) Enterprise Resource Planning**
 - c) Effective Research Planning
 - d) None of the mentioned
180. Which framework class include standards and classes that support component communication and information exchange?

- a) System infrastructure frameworks
 - b) Middleware integration frameworks**
 - c) Enterprise application frameworks
 - d) MVC
181. Which of the following is not a benefit of software reuse?
- a) Standards compliance
 - b) Increased Reliability
 - c) Reduced Process risk**
 - d) Maintaining a component library
182. In which of the following language the frameworks will not work?
- a) C#
 - b) Ruby
 - c) PHP**
 - d) Java
183. Which frameworks support the development of system infrastructures such as communications, user interfaces, and compilers?
- a) Middleware integration frameworks
 - b) System infrastructure framework**
 - c) Enterprise application frameworks
 - d) Web application frameworks
- 184.** The MVC pattern was originally proposed in the 1980s as an approach to
- a) Web application frameworks
 - b) Middleware integration frameworks
 - c) Web application frameworks
 - d) GUI design**
185. MVC framework includes
- a) Observer pattern
 - b) Strategy pattern
 - c) Composite pattern
 - d) All of the mentioned**
186. Which category the following statement belongs, "Classes to create and manage sessions are usually part of a WAF"?
- a) Session management**
 - b) Security
 - c) User interaction
 - d) Database support
187. Which framework's applications are difficult to deal with?
- a) MVC pattern
 - b) Web application frameworks
 - c) Debugging framework**
 - d) None of the mentioned

188. Which category the following statement belongs,"Frameworks don't usually include a database but rather assume that a separate database such as MySQL"?

- a) Session management
- b) Security
- c) User interaction
- d) Database support**

189. Which option supports the statement:"Most web frameworks now provide AJAX support"?

- a) Session Management
- b) Security
- c) User interaction**
- d) Database support

190. Frameworks are an effective approach to reuse, but are _____ to introduce into software development processes.

- a) difficult
- b) expensive
- c) unreliable
- d) difficult and expensive**

191. Which of the following option is not provided by formal methods?

- a) providing frameworks
- b) verifying systems
- c) provide investors
- d) both providing frameworks and verifying systems**

192. _____ are statements that can be interpreted in a number of ways.

- a) Contradictions**
- b) Ambiguities
- c) Vagueness
- d) Comments

193. What defines the circumstances in which a particular operation is valid?

- a) Contradictions
- b) Post-condition
- c) Vagueness
- d) None of the mentioned**

194. Which of the following is a way of making a statement about the elements of a set that is true for every member of the set?

- a) Set
- b) Sequence
- c) Universal quantification**
- d) Both Set and Sequence

195. Which of the following occurs often due to the bulkiness of a system specification document?

- a) Contradictions

- b) Ambiguities
 - c) Vagueness**
 - d) Incompleteness
196. The _____ of a formal specification language is often based on a syntax that is derived from standard set theory notation and predicate calculus.
- a) semantic domain
 - b) syntactic domain**
 - c) sequence
 - d) set
197. Which of the following provides a concise, unambiguous, and consistent method for documenting system requirements?
- a) CMM
 - b) ISO-9001
 - c) CASE tools
 - d) Formal methods**
198. The _____ of a specification language indicates how the language represents system requirements.
- a) semantic domain**
 - b) syntactic domain
 - c) sequence
 - d) set
199. Which of the following is essential for success, when formal methods are used for the first time?
- a) Expert training
 - b) Consulting
 - c) Prerequisite knowledge
 - d) Both Expert training and Consulting**
200. It is generally not necessary to apply formal methods to every aspect of a major system.
- a) True
 - b) False**
201. Who was first to proposed the Cleanroom philosophy in software engineering ?
- a) Mills
 - b) Dyer
 - c) Linger
 - d) All of the Mentioned**
202. How does Cleanroom software engineering differs from the conventional and object-oriented views ?
- a) It makes explicit use of statistical quality control
 - b) It verifies design specification using a mathematically based proof of correctness
 - c) It relies heavily on statistical use testing to uncover high-impact errors
 - d) All of the mentioned**

203. Cleanroom software engineering complies with the operational analysis principles by using a method called known as

- a) **box structure specification**
- b) referential transparency
- c) degenerative error correction
- d) none of the mentioned

204. What encapsulates state data and services in a manner that is analogous to objects?

- a) **State box**
- b) Clean box
- c) White box
- d) Black box

205. MTTF stands for

- a) mean-time-to-function
- b) **mean-time-to-failure**
- c) manufacture-time-to-function
- d) none of the mentioned

206. The transition functions that are implied by the state box are defined in

- a) Yellow box
- b) **Clear box**
- c) White box
- d) Black box

207. Which of the following is not included in the certification approach?

- a) Creation of usage scenarios
- b) Specific usage file
- c) **Generation of test cases from the servers end.**
- d) Reliability

208. The _____ specifies the behavior of a system or a part of a system.

- a) Yellow box
- b) Clear box
- c) White box
- d) **Black box**

209. Which of the following is required for Certification for cleanroom software engineering?

- a) Sampling model
- b) Component model
- c) Certification model
- d) **All of the mentioned**

210. The philosophy of Cleanroom SE focuses on defect removal rather than defect avoidance.

- a) True
- b) **False**

211. Which of the following Cleanroom process teams develops set of statistical test to exercise software after development?

- a) Specification team
- b) Development team**

- c) Certification team
- d) All of the mentioned

212. A software element conforms to a standard component model and can be independently deployed and composed without modification according to a composition standard.

- a) True**

- b) False

213. Which of the following is a feature of CBSE?

- a) It increases quality
- b) CBSE shortens delivery time
- c) CBSE increases productivity
- d) All of the mentioned**

214. Which of the following term is best defined by the statement:"For a component to be composable, all external interactions must take place through publicly defined interfaces"?

- a) Standardized
- b) Independent
- c) Composable**
- d) Documented

215. A component model defines standards for

- a) properties
- b) methods
- c) mechanisms
- d) all of the mentioned**

216. Which of the following is not an example of component technology?

- a) EJB
- b) COM+
- c) .NET
- d) None of the mentioned**

217. Which of the following term is best defined by the statement:"The operations on each side of the interface have the same name but their parameter types or the number of parameters are different."?

- a) Parameter incompatibility**
- b) Operation incompleteness
- c) Operation incompatibility
- d) None of the mentioned

218. Which of the following term is best defined by the statement: "The names of the operations in the 'provides' and 'requires' interfaces are different."?

- a) Parameter incompatibility
 - b) Operation incompleteness
 - c) Operation incompatibility**
 - d) None of the mentioned
219. A _____ defines a set of standards for components, including interface standards, usage standards, and deployment standards.
- a) Component-based software engineering
 - b) Component composition
 - c) Component model**
 - d) Component interfaces
220. When composing reusable components that have not been written for your application, you may need to write adaptors or 'glue code' to reconcile the different
-
- a) Component modules
 - b) Component composition
 - c) Component model**
 - d) Component interfaces.
- 221.** _____ is a reuse-based approach to defining, implementing, and composing loosely coupled independent components into systems.
- a) Component-based software engineering
 - b) Component composition
 - c) Component model
 - d) Component interfaces**
222. Which of the following term is best defined by the statement "In a distributed system, several processes may operate at the same time on separate computers on the network."?
- a) Concurrency**
 - b) Openness
 - c) Resource sharing
 - d) Fault tolerance
- 223.** Which of the following is not a dimension of scalability?
- a) Size
 - b) Distribution
 - c) Manageability
 - d) Interception**
- 224.** A distributed system must defend itself against
- a) Modification
 - b) Interruption
 - c) Fabrication
 - d) All of the mentioned**
225. QoS stands for
- a) Quality of security

- b) Quality of system
- c) Quality of service**
- d) None of the mentioned

226. In Java, _____ are comparable with, though not identical to, RPCs.

- a) Remote Method Invocations**
- b) Operating System
- c) Client–server computing
- d) None of the mentioned

227. _____ depend on there being a clear separation between the presentation of information and the computations that create and process that information.

- a) Master-slave architectures
- b) Client–server systems**
- c) Two-tier client–server architecture
- d) Both Master-slave architectures AND Client–server systems

228. Which architecture is used when there is a high volume of transactions to be processed by the server?

- a) Multi-tier client–server architecture**
- b) Master-slave architecture
- c) Distributed component architecture
- d) Peer-to-peer architecture

229. Which architecture are reliant on middle-ware?

- a) Multi-tier client–server architecture
- b) Master-slave architecture
- c) Distributed component architecture**
- d) Peer-to-peer architecture

230. _____ is a way of providing functionality on a remote server with client access through a web browser.

- a) SaaS**
- b) SOA
- c) Configurability
- d) Both SaaS and Configurability

231. Which architecture decentralized architectures in which there are no distinguished clients and servers?

- a) Multi-tier client–server architecture
- b) Master-slave architecture
- c) Distributed component architecture
- d) Peer-to-peer architecture**

232. Service Oriented Architecture (SOA) is

- a) Strongly Coupled
- b) Loosely Coupled**
- c) Strongly Cohesive
- d) Loosely Cohesive

233. Which of the following is an essential principle of an architecture?

- a) Consistency
- b) Reliability
- c) Scalability

d) All of the mentioned

234. Arrange the following activities in order to build a SOA.

- i. Virtualization through mediation.
 - ii. Track services with registries.
 - iii. Govern, secure and manage the services.
 - iv. Design for interoperability through the adoption of standards.
- a) i, ii, iii, iv
 - b) iii, ii, i, iv
 - c) ii, iii, i, iv**
 - d) ii, iii, iv, i

235. How is SOA different from OO Architecture ?

- a) Strong coupling among objects
- b) Communications are prescriptive rather than being descriptive
- c) Data is separated from a service or behavior**
- d) Data and methods are integrated into a single object

236. Which architecture will be built on top of a SOA ?

- a) The Application Architecture**
- b) The Service Architecture
- c) The Component Architecture
- d) None of the mentioned

237. Which of the following utilities is not a part of Application Service Layer ?

- a) Policy implementation
- b) QoS
- c) Security
- d) Verify invoice**

238. Which of the following utilities is not a part of Business Service Layer ?

- a) Task centric service
- b) Wrapper Services**
- c) Get account info
- d) Entity centric service

239. We can build Service Oriented Architecture (SOA) using Object Oriented (OO) language

- a) True**
- b) False

240. Which architecture describes the various elements that support the implementation of services.

- a) The Application Architecture
- b) The Service Architecture

c) The Component Architecture

d) None of the mentioned

241. Web Services is not a realization of SOA ?

a) True

b) False

242. Which of the following is a category of a stimuli?

a) Periodic stimuli

b) Software stimuli

c) Hardware stimuli

d) Management stimuli

243. Which of the following activities may be included in a real-time software design process?

a) Platform selection

b) Timing analysis

c) Process design

d) All of the mentioned

244. Which of the following is not a real-time architectural pattern

a) Observe and React

b) Environmental Control

c) Embedded System

d) Process Pipeline

245. RTOS stands for

a) real-life operating system

b) real-time operating system

c) real-time operating software

d) real-life operating software

246. The times by which stimuli must be processed and some response produced by the system is known as

a) Compile time

b) Frequency

c) Deadlines

d) Execution time

247. The switch to backup power must be completed within a deadline of

a) 50 ms

b) 55 ms

c) 70 ms

d) 100 ms

248. An example of a system that may use a process pipeline is a _____

a) High-speed data acquisition system

b) Failure of a power supply in an embedded system

c) Both High-speed data acquisition system AND Failure of a power supply in an

- embedded system
- d) None of the mentioned
249. Periodic occur irregularly and unpredictably and are usually signaled using the computer's interrupt mechanism.
- a) True
- b) False**
250. If you detect power failure by monitoring a voltage level, you have to make more than one observation to detect that the voltage is dropping.
- a) True**
- b) False
251. The average execution time of the power monitor process should be less than
- a) 1ms**
- b) 10ms
- c) 100ms
- d) none of the mentioned
252. Which of the following diagrams can help spot points cuts?
- a) Class diagram
- b) Object diagram**
- c) Sequence diagram
- d) ER diagram
253. Which of the following is represented as an aspect that requests a login name and password?
- a) Class
- b) Object
- c) User authentication**
- d) All of the mentioned
254. Research and development in aspect-orientation has primarily focused on
- a) software re-engineering
- b) artificial programming
- c) aspect-oriented programming**
- d) all of the mentioned
255. Which of the following is a key principle of software design and implementation?
- a) Separation of concerns**
- b) Writing aspects
- c) Finding code complexity
- d) None of the mentioned
256. Which of the following is not a type of stakeholder concern?
- a) Functional concerns**
- b) Quality of service concerns
- c) Policy concern
- d) Non-functional concern

257. Which of the following concerns best suits the following statement:"Internet banking system includes new customer requirements, account Requirements, customer management requirements, security requirements, recovery requirements etc." ?
- a) Functional concerns
 - b) Quality of service concerns
 - c) System concerns
 - d) Cross-cutting concerns**
258. Which of the following is core concern in medical record management system?
- a) maintaining records of patients**
 - b) diagnose and treatments
 - c) consultations
 - d) all of the mentioned
259. An event in an executing program where the advice associated with an aspect may be executed is known as
- a) aspect
 - b) join point**
 - c) join point model
 - d) pointcut
260. The incorporation of advice code at the specified join points by an aspect weaver is called".
- a) aspect
 - b) join point
 - c) join point model
 - d) weaving**
261. Which of the following is needed by Maintenance staff?
- a) A specific type of equipment
 - b) Maintenance record for each and every equipment item
 - c) Check in/check out equipment for maintenance
 - d) All of the mentioned**
- 262.** An aspect is only static.
- a) True
 - b) False**
263. The _____ is connected to servers (typically powerful workstations or PCs) that play a dual role.
- a) Database
 - b) Software
 - c) Hardware
 - d) None of the mentioned**
264. Which of the following term is best defined by the statement:"The client sends structured query language (SQL) requests to the server which are transmitted as messages across the net"?
- a) File servers

b) Database servers

- c) Client servers
- d) None of the mentioned

265. Which subsystem implements the requirements defined by the application?

- a) UI
- b) DBMS

c) Application subsystem

- d) None of the mentioned

266. Which test do you infer from the following statement: "The coordination and data management functions of the server are tested."?

a) Server tests

- b) Application function tests
- c) Transaction tests
- d) Network communication tests

267. Which of the following presentation is explained in the following statement:"An extension of the distributed presentation approach, primary database and application logic remain on the server, and data sent by the server is used by the client to prepare the user presentation."?

- a) Local Presentation
- b) Distributed presentation

c) Remote presentation

- d) All of the mentioned

268. "A client is assigned all user presentation tasks and the processes associated with data entry".Which option supports the client's situation?

a) Distributed logic

- b) Distributed presentation
- c) Remote presentation
- d) All of the mentioned

269. What is used to pass SQL requests and associated data from one component to another?

a) Client/server SQL interaction

- b) Remote procedure calls
- c) SQL Injection
- d) All of the mentioned

270. When a client application invokes a method contained within an object elsewhere in the system, CORBA uses dynamic invocation to

- a) obtain pertinent information about the desired method from the interface repository
- b) create a data structure with parameters to be passed to the object
- c) create a request for the object

d) all of the mentioned

271. Which of the following services is not provided by an object?

- a) Activating & Deactivating Objects

b) Security features

c) Files implementing the entities identified within the ERD

d) Registering object implementation

272. Which of the following term is best defined by the statement:"When one object invokes another independent object, a message is passed between the two objects."?

a) Control couple

b) Application object

c) Data couple

d) Database object

273. CORBA stands for

a) Common Object Request Build Architecture

b) Common Object Request Broker Architecture

c) Common Object Request Break Architecture

d) All of the mentioned

1. Which of the following term describes testing?

a) Finding broken code

b) Evaluating deliverable to find errors

c) A stage of all projects

d) None of the mentioned

[View Answer](#)

Answer: b

2. What is Cyclomatic complexity?

a) Black box testing

b) White box testing

c) Yellow box testing

d) Green box testing

[View Answer](#)

Answer: b.

3. Lower and upper limits are present in which chart?

a) Run chart

b) Bar chart

c) Control chart

d) None of the mentioned

[View Answer](#)

Answer: a

4. Maintenance testing is performed using which methodology?

a) Retesting

b) Sanity testing

c) Breadth test and depth test

d) Confirmation testing

[View Answer](#)

Answer: c

5. White Box techniques are also classified as

- a) Design based testing
- b) Structural testing
- c) Error guessing technique
- d) None of the mentioned

[View Answer](#)

Answer: b

6. Exhaustive testing is

- a) always possible
- b) practically possible
- c) impractical but possible
- d) impractical and impossible

[View Answer](#)

Answer: c

7. Which of the following is/are White box technique?

- a) Statement Testing
- b) Decision Testing
- c) Condition Coverage
- d) All of the mentioned

[View Answer](#)

Answer: d

8. What are the various Testing Levels?

- a) Unit Testing
- b) System Testing
- c) Integration Testing
- d) All of the mentioned

[View Answer](#)

Answer: d.

9. Boundary value analysis belong to?

- a) White Box Testing
- b) Black Box Testing
- c) White Box & Black Box Testing
- d) None of the mentioned

[View Answer](#)

Answer: b

10. Alpha testing is done at
- a) Developer's end
 - b) User's end
 - c) Developer's & User's end
 - d) None of the mentioned

[View Answer](#)

Answer: a

1. The testing in which code is checked
- a) Black box testing
 - b) White box testing
 - c) Red box testing
 - d) Green box testing

[View Answer](#)

Answer: b

2. Testing done without planning and Documentation is called
- a) Unit testing
 - b) Regression testing
 - c) Adhoc testing
 - d) None of the mentioned

[View Answer](#)

Answer: c

3. Acceptance testing is also known as
- a) Grey box testing
 - b) White box testing
 - c) Alpha Testing
 - d) Beta testing

[View Answer](#)

Answer: d

4. Which of the following is non-functional testing?
- a) Black box testing
 - b) Performance testing
 - c) Unit testing
 - d) None of the mentioned

[View Answer](#)

Answer: b.

5. Beta testing is done at
- a) User's end
 - b) Developer's end
 - c) User's & Developer's end

d) None of the mentioned

[View Answer](#)

Answer: a

6. SPICE stands for

- a) Software Process Improvement and Compatibility Determination
- b) Software Process Improvement and Control Determination
- c) Software Process Improvement and Capability Determination
- d) None of the mentioned

[View Answer](#)

Answer: c

7. Unit testing is done by

- a) Users
- b) Developers
- c) Customers
- d) None of the mentioned

[View Answer](#)

Answer: b

8. Behavioral testing is

- a) White box testing
- b) Black box testing
- c) Grey box testing
- d) None of the mentioned

[View Answer](#)

Answer: b

9. Which of the following is black box testing

- a) Basic path testing
- b) Boundary value analysis
- c) Code path analysis
- d) None of the mentioned

[View Answer](#)

Answer: b

10. Which of the following is not used in measuring the size of the software

- a) KLOC
- b) Function Points
- c) Size of module
- d) None of the mentioned

[View Answer](#)

Answer: c

1. Software Debugging is a set of activities that can be planned in advance and conducted systematically.

- a) True
- b) False

[View Answer](#)

Answer: b

2. Which of the following is not a software testing generic characteristics?

- a) Different testing techniques are appropriate at different points in time
- b) Testing is conducted by the developer of the software or an independent test group
- c) Testing and debugging are different activities, but debugging must be accommodated in any testing strategy
- d) None of the mentioned

[View Answer](#)

Answer: a

3. ITG stands for

- a) instantaneous test group
- b) integration testing group
- c) individual testing group
- d) independent test group

[View Answer](#)

Answer: d

4. By collecting _____ during software testing, it is possible to develop meaningful guidelines to halt the testing process.

- a) Failure intensity
- b) Testing time
- c) Metrics
- d) All of the mentioned

[View Answer](#)

Answer: c

5. Which of the following issues must be addressed if a successful software testing strategy is to be implemented?

- a) Use effective formal technical reviews as a filter prior to testing
- b) Develop a testing plan that emphasizes “rapid cycle testing.”
- c) State testing objectives explicitly
- d) All of the mentioned

[View Answer](#)

Answer: d

6. Test cases should uncover errors like
- a) Nonexistent loop termination
 - b) Comparison of different data types
 - c) Incorrect logical operators or precedence
 - d) All of the mentioned

[View Answer](#)

Answer: a

7. Which of the following errors should not be tested when error handling is evaluated?
- a) Error description is unintelligible
 - b) Error noted does not correspond to error encountered
 - c) Error condition causes system intervention prior to error handling
 - d) Error description provide enough information to assist in the location of the cause of the error

[View Answer](#)

Answer: a

8. What is normally considered as an adjunct to the coding step
- a) Integration testing
 - b) Unit testing
 - c) Completion of Testing
 - d) Regression Testing

[View Answer](#)

Answer: b

9. Which of the following is not regression test case?
- a) A representative sample of tests that will exercise all software functions
 - b) Additional tests that focus on software functions that are likely to be affected by the change
 - c) Tests that focus on the software components that have been changed
 - d) Low-level components are combined into clusters that perform a specific software sub-function

[View Answer](#)

Answer: d

10. Which testing is an integration testing approach that is commonly used when “shrink-wrapped” software products are being developed?
- a) Regression Testing
 - b) Integration testing
 - c) Smoke testing
 - d) Validation testing

[View Answer](#)

Answer: c

11. In which testing level the focus is on customer usage?
- a) Alpha Testing
 - b) Beta Testing

- c) Validation Testing
- d) Both Alpha and Beta

[View Answer](#)

Answer: d

12. Validation refers to the set of tasks that ensure that software correctly implements a specific function.

- a) True
- b) False

[View Answer](#)

Answer: b

1. The architecture of object-oriented software results in a series of layered subsystems that encapsulate collaborating classes.

- a) True
- b) False

[View Answer](#)

Answer: a

2. The construction of object-oriented software begins with the creation of

- a) design model
- b) analysis model
- c) code levels
- d) both design and analysis model

[View Answer](#)

Answer: d

3. Which testing integrates the set of classes required to respond to one input or event for the system?

- a) cluster testing
- b) thread-based testing
- c) use-based testing
- d) none of the mentioned

[View Answer](#)

Answer: b

4. Which of the following is one of the steps in the integration testing of OO software?

- a) cluster testing
- b) thread-based testing
- c) use-based testing
- d) none of the mentioned

[View Answer](#)

Answer: a

5. _____ methods can be used to drive validations tests

- a) Yellow-box testing
- b) Black-box testing
- c) White-box testing
- d) All of the mentioned

[View Answer](#)

Answer: b

6. Which of the following is a part of testing OO code?

- a) Validation tests
- b) Integration tests
- c) Class tests
- d) System tests

[View Answer](#)

Answer: c

7. The object of _____ within an OO system is to design tests that have a high likelihood of uncovering plausible bugs.

- a) Fault-based testing
- b) Integration testing
- c) Use-based testing
- d) Scenario-based testing

[View Answer](#)

Answer: a

8. What refers to the externally observable structure of an OO program?

- a) Deep structure
- b) Surface structure
- c) Core structure
- d) All of the mentioned

[View Answer](#)

Answer: b

9. _____ categorizes class operations based on the generic function that each performs.

- a) Category-based partitioning
- b) Attribute-based partitioning
- c) State-based partitioning
- d) None of the mentioned

[View Answer](#)

Answer: a

10. Which of the following is black-box oriented and can be accomplished by applying the same black-box methods discussed for conventional software?

- a) Conventional testing

- b) OO system validation testing
- c) Test case design
- d) Both Conventional testing and OO system validation testing

[View Answer](#)

Answer: d

11. In which of the following testing strategies, a smallest testable unit is the encapsulated class or object?

- a) Unit testing
- b) Integration testing
- c) System testing
- d) None of the mentioned

[View Answer](#)

Answer: a

.

12. Which of the following testing types is not a part of system testing?

- a) Recovery testing
- b) Stress testing
- c) System testing
- d) Random testing

[View Answer](#)

Answer: d

1. What is testing process' first goal?

- a) Bug prevention
- b) Testing
- c) Execution
- d) Analyses

[View Answer](#)

Answer: a

2. Software mistakes during coding are known as

- a) errors
- b) failures
- c) bugs
- d) defects

[View Answer](#)

Answer: c

3. Name an evaluation technique to assess the quality of test cases.

- a) Mutation analysis
- b) Validation
- c) Verification
- d) Performance analysis

[View Answer](#)

Answer: a

4. Test should be conducted for every possible

- a) data
- b) case
- c) variable
- d) all of the mentioned

[View Answer](#)

Answer: d

5. Which of the following is not a part of bug report?

- a) Test case
- b) Output
- c) Software Version
- d) LOC

[View Answer](#)

Answer: d

6. Which of the following is not a part of Execution Flow during debugging?

- a) Step Over
- b) Step Into
- c) Step Up
- d) Step Out

[View Answer](#)

Answer: c

7. Cyclomatic Complexity method comes under which testing method.

- a) Yellow box
- b) White box
- c) Gray box
- d) Black box

[View Answer](#)

Answer: b

8. Which is a black box testing technique appropriate to all levels of testing?

- a) Acceptance testing
- b) Regression testing
- c) Equivalence partitioning
- d) Quality assurance

[View Answer](#)

Answer: c

9. Which of the following is the way of ensuring that the tests are actually testing code?

- a) Control structure testing
- b) Complex path testing
- c) Code coverage
- d) Quality assurance of software

[View Answer](#)

Answer: c

10. Effective testing will reduce _____ cost.

- a) maintenance
- b) design
- c) coding
- d) documentation

[View Answer](#)

Answer: a.

11. Which of the following is a common pointer problem?

- a) Data sharing errors
- b) Accessing data elements of the wrong type
- c) Attempting to use memory areas after freeing them
- d) All of the mentioned

[View Answer](#)

Answer: d

1. Standard Enforcer is a

- a) Static Testing Tool
- b) Dynamic Testing
- c) Static & Dynamic Testing
- d) None of the mentioned

[View Answer](#)

Answer: a

2. Many applications using static analysis find 0.1-0.2% NCSS. NCSS stands for

- a) Non-Code Source Statement
- b) Non Comment Source Sentence
- c) Non-Comment Source Statement
- d) All of the mentioned

[View Answer](#)

Answer: c

3. Which testing tool does a simple job of enforcing standards in a uniform way of many programs?

- a) Static Analyzer
- b) Code Inspector
- c) Standard Enforcer

d) Both Code Inspector & Standard Enforcer

[View Answer](#)

Answer: d

4. Software Testing with real data in real environment is known as

- a) alpha testing
- b) beta testing
- c) regression testing
- d) none of the mentioned

[View Answer](#)

Answer: b

5. Which of the following testing tools examine program systematically & automatically ?

- a) Code Inspector
- b) Static Analyzer
- c) Standard Enforcer
- d) Coverage Analyzer

[View Answer](#)

Answer: b

6. Which testing tool is responsible for documenting programs ?

- a) Test/File Generator
- b) Test Harness System
- c) Test Archiving Systems
- d) Coverage Analyzer

[View Answer](#)

Answer: c

7. Beta Testing is done by

- a) Developers
- b) Testers
- c) Users
- d) All of the mentioned

[View Answer](#)

Answer: c

8. Standard enforcer tool looks at the whole program.

- a) True
- b) False

[View Answer](#)

Answer: b

9. Debugging Program is a program which runs concurrently with the program under test & provide commands to
- a) examine memory & registers
 - b) stop execution at a particular point
 - c) search for references for particular variables, constant and registers
 - d) all of the mentioned

[View Answer](#)

Answer: d

10. Execution Verifier is a dynamic tool that is also known as
- a) Test File Generator
 - b) Coverage Analyzer
 - c) Output Comparator
 - d) Test Harness System

[View Answer](#)

Answer: b

1. Why is software difficult to build ?
- a) Controlled changes
 - b) Lack of reusability
 - c) Lack of monitoring
 - d) All of the mentioned

[View Answer](#)

Answer: c

2. Which of the following is not a conflict in software development team?
- a) Simultaneous updates
 - b) Shared and common code
 - c) Versions
 - d) Graphics issues

[View Answer](#)

3. Which of the following lasts for the duration of the project and covers the development process?
- a) Monitoring all key parameters like cost, schedule, risks
 - b) Taking corrective actions when needed
 - c) Providing information on the development process in terms of metrics
 - d) All of the mentioned

[View Answer](#)

Answer: a

4. Which of the following is not a typical environment in communication facilitation ?
- a) Multiple teams
 - b) Multiple user groups
 - c) Multiple fests

d) Multiple locations

[View Answer](#)

Answer: c

5. Which of the following is a software process ?

- a) Analysis and design
- b) Configuration and management
- c) Business modeling
- d) All of the mentioned

[View Answer](#)

Answer: d

6. Which of the following is not included in Issues Meetings?

- a) Issues gathered the day before
- b) Regular schedule of meeting
- c) Discussion with business
- d) Attendance

[View Answer](#)

Answer: c.

7. Which of the following is not a part of Software Configuration Management Basics?

- a) Identification
- b) Version
- c) Auditing and Reviewing
- d) Status Accounting

[View Answer](#)

Answer: b

8. What is a collection of software elements treated as a unit for the purposes of SCM?

- a) Software Configuration Item
- b) Baseline
- c) Configuration
- d) Configuration Control Board

[View Answer](#)

Answer: a

9. What is one or more software configuration items that have been formally reviewed and agreed upon and serve as a basis for further development?

- a) Configuration
- b) Baseline
- c) Software
- d) All of the mentioned

[View Answer](#)

Answer: b

10. What is validating the completeness of a product?

- a) Identification
- b) Software
- c) Auditing and Reviewing
- d) Status Accounting

[View Answer](#)

Answer: c

11. What group has the responsibility for reviewing and approving changes to baselines?

- a) Software Configuration Item
- b) Baseline
- c) Configuration
- d) Configuration Control Board

[View Answer](#)

Answer: d

12. In many settings PM is a center of communication hub

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: None.

13. What is a specific instance of a baseline or configuration item?

- a) Software
- b) Configuration
- c) Version
- d) Status Accounting

[View Answer](#)

Answer: c

1. SCM stands for

- a) Software Control Management
- b) Software Configuration Management
- c) Software Concept Management
- d) None of the mentioned

[View Answer](#)

Answer: b

2. When code is made available to others, it goes in a/an

- a) hard drive

- b) access-controlled library
- c) servers
- d) access control

[View Answer](#)

Answer: b

Explanation: None.

3. Which of the following is not a main phase in Configuration Management (CM) Process?

- a) CM Planning
- b) Executing the CM process
- c) CM audits
- d) None of the mentioned

[View Answer](#)

Answer: d

4. CM is about managing the different items in the product, and changes in them.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: None.

5. What allows different projects to use the same source files at the same time?

- a) Version Control
- b) Access control
- c) CM Process
- d) Version Control and Access control

[View Answer](#)

Answer: a

6. Which of the following is not a change management process?

- a) Log the changes
- b) Estimate impact on effort and schedule
- c) Review impact with stakeholders
- d) None of the mentioned

[View Answer](#)

Answer: d

7. Configuration management (CM) is needed to deliver product to the client

- a) True
- b) False

[View Answer](#)

Answer: a

8. What is one or more software configuration items that have been formally reviewed and agreed upon and serve as a basis for further development?

- a) Baseline
- b) Cumulative changes
- c) CM
- d) Change Control

[View Answer](#)

Answer: a

9. How are baselines verified?

- a) By reviews
- b) By inspections
- c) By testing of code
- d) All of the mentioned

[View Answer](#)

Answer: c

10. Which of the following is a example of Configuration Items ?

- a) SCM procedures
- b) Source code
- c) Software design descriptions
- d) All of the mentioned

[View Answer](#)

Answer: d

11. SCM controls only the products of the development process.

- a) True
- b) False

[View Answer](#)

Answer: a

12. CCB stands for

- a) Change Control Board
- b) Change Control Baseline
- c) Cumulative Changes in Baseline
- d) None of the mentioned

[View Answer](#)

Answer: a

13. What information is required to process a change to a baseline?

- a) Reasons for making the changes
- b) A description of the proposed changes
- c) List of other items affected by the changes

d) All of the mentioned

[View Answer](#)

Answer: d

1. Quality Management in software engineering is also known as

- a) SQA
- b) SQM
- c) SQI
- d) SQA and SQM

[View Answer](#)

Answer: a

2. Quality also can be looked at in terms of user satisfaction which includes

- a) A compliant product
- b) Good quality output
- c) Delivery within budget and schedule
- d) All of the mentioned

[View Answer](#)

Answer: d

3. Inspections and testing are what kinds of Quality Costs?

- a) Prevention
- b) Internal Failure
- c) External Failure
- d) Appraisal

[View Answer](#)

Answer: d

4. According to Pareto's principle, x% of defects can be traced to y% of all causes. What are the values of x and y?

- a) 60, 40
- b) 70, 30
- c) 80, 20
- d) No such principle exists

[View Answer](#)

Answer: c

5. What is Six Sigma?

- a) It is the most widely used strategy for statistical quality assurance
- b) The "Six Sigma" refers to six standard deviations
- c) It is the most widely used strategy for statistical quality assurance AND The "Six Sigma" refers to six standard deviations
- d) A Formal Technical Review(FTR) guideline for quality walkthrough or inspection

[View Answer](#)

Answer: c

6. Which of the following is not a core step of Six Sigma?

- a) Define
- b) Control
- c) Measure
- d) Analyse

[View Answer](#)

Answer: b.

7. Non-conformance to software requirements is known as

- a) Software availability
- b) Software reliability
- c) Software failure
- d) None of the mentioned

[View Answer](#)

Answer: c

8. Software safety is equivalent to software reliability.

- a) True
- b) False

[View Answer](#)

Answer: b

9. Misinterpretation of customer communication is a sample of possible cause defects.

- a) True
- b) False

[View Answer](#)

Answer: a

10. What kind of quality cost is incurred when an error is detected in a product prior to shipment?

- a) Prevention
- b) Internal Failure
- c) External Failure
- d) Appraisal

[View Answer](#)

Answer: b

11. The degree to which the design specifications are followed during manufacturing is known as

- a) Quality of design
- b) Quality of conformance
- c) Quality of testing

d) None of the mentioned

[View Answer](#)

Answer: b

12. Quality of design encompasses requirements and specifications of the system.

a) True

b) False

[View Answer](#)

Answer: a

13. According to ISO 9001, inspection and testing comes under which management responsibility?

a) Process control

b) Document control

c) Control of nonconforming products

d) Servicing

[View Answer](#)

Answer: a

1. Which of the following is the task of project indicators:

a) help in assessment of status of ongoing project

b) track potential risk

c) help in assessment of status of ongoing project & track potential risk

d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

2. Which of the following does not affect the software quality and organizational performance?

a) Market

b) Product

c) Technology

d) People

[View Answer](#)

Answer: a

3. The intent of project metrics is:

a) minimization of development schedule

b) for strategic purposes

c) assessing project quality on ongoing basis

d) minimization of development schedule and assessing project quality on ongoing basis

[View Answer](#)

Answer: d

Explanation: A project metric is a quantitative measure of the degree to which a system, component or process possesses an attribute.

4. Which of the following is not a direct measure of SE process?

- a) Efficiency
- b) Cost
- c) Effort Applied
- d) All of the mentioned

[View Answer](#)

Answer: a

5. Which of the following is an indirect measure of product?

- a) Quality
- b) Complexity
- c) Reliability
- d) All of the Mentioned

[View Answer](#)

Answer: d

6. In size oriented metrics, metrics are developed based on the _____

- a) number of Functions
- b) number of user inputs
- c) number of lines of code
- d) amount of memory usage

[View Answer](#)

Answer: c

Explanation: None.

7. Which of the following is not an information domain required for determining function point in FPA ?

- a) Number of user Input
- b) Number of user Inquiries
- c) Number of external Interfaces
- d) Number of errors

[View Answer](#)

Answer: d

8. Usability can be measured in terms of:

- a) Intellectual skill to learn the system
- b) Time required to become moderately efficient in system usage
- c) Net increase in productivity
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

9. A graphical technique for finding if changes and variation in metrics data are meaningful is known as
- a) DRE (Defect Removal Efficiency)
 - b) Function points analysis
 - c) Control Chart
 - d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Others options are formulas.

10. Defects removal efficiency (DRE) depends on:

- a) E – errors found before software delivery
- b) D – defects found after delivery to user
- c) Both E and D
- d) Varies with project

[View Answer](#)

Answer: c

Explanation: $DRE = E / (E + d)$.

1. The user has no control over the contents of a static web page.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Static web pages are just for information purposes.

2. Which metric gives the idea about the contents on a web page ?

- a) Word Token
- b) Word Count
- c) Word Size
- d) Word Length

[View Answer](#)

Answer: b

Explanation: The word count metric gives the total number of words on a web page.

3. How is the complexity of a web page related to link count ?

- a) Directly
- b) Indirectly
- c) No relation
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: If link count is more, complexity will be more.

4. It is expected to have less number of connections for a good web application.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: More the link count, more the complexity and the web page dependence factor will increase.

5. Number of dynamic web pages provides an idea about _____ for a web page that is to be built.

- a) size
- b) complexity
- c) effort
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

6. Which of the following web engineering metric measures the extent of relatedness between two or more web pages ?

- a) Number of Static Content Objects
- b) Number of Dynamic Content Objects
- c) Web Page Similarity
- d) Number of Internal Page Links

[View Answer](#)

Answer: c

Explanation: None.

7. Which of the following is not a classification of the web engineering metric, Web Page Similarity ?

- a) Content based
- b) Link based
- c) Usage based
- d) Traffic based

[View Answer](#)

Answer: d

Explanation: Similarity between two web pages is not judged upon its traffic activity.

8. The static content objects are dependent on the actions of the user.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Dynamic Objects are user dependent

9. Link based measures rely on _____ structure of a web graph to obtain related pages.

- a) Embedded
- b) Hyperlink
- c) Dynamic
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Only option b answers the blank, rest are not in accordance to the question.

10. Which of the following is not a web engineering project metric ?

- a) Number of Static Content Objects
- b) Number of Dynamic Content Objects
- c) Number of Inherited Objects
- d) Word Count

[View Answer](#)

Answer: c

Explanation: There is no such metric as an inherited object's count.

1. Which of the following is not a metric for design model?

- a) Interface design metrics
- b) Component-level metrics
- c) Architectural metrics
- d) Complexity metrics

[View Answer](#)

Answer: d

Explanation: Complexity metrics measure the logical complexity of source code.

2. Statement and branch coverage metrics are part of

- a) Analysis Model
- b) Testing
- c) Design Model
- d) Source Code

[View Answer](#)

Answer: b

Explanation: These metrics lead to the design of test cases that provide program coverage.

3. Function Points in software engineering was first proposed by

- a) Booch
- b) Boehm
- c) Albrecht
- d) Jacobson

[View Answer](#)

Answer: c

Explanation: First proposed by Albrecht in 1979, hundreds of books and papers have been written on functions points since then.

4. How many Information Domain Values are used for Function Point Computation?

- a) three
- b) four
- c) five
- d) six

[View Answer](#)

Answer: c

Explanation: The five values are: External Inputs, External Outputs, External Inquiries, Internal Logical Files and External Interface Files.

5. Function Point Computation is given by the formula

- a) $FP = [\text{count total} * 0.65] + 0.01 * \sum(F_i)$

- b) $FP = \text{count total} * [0.65 + 0.01 * \sum(F_i)]$.
- c) $FP = \text{count total} * [0.65 + 0.01] * \sum(F_i)$
- d) $FP = [\text{count total} * 0.65 + 0.01] * \sum(F_i)$

[View Answer](#)

Answer: b

Explanation: Option b is the correct formula for Function Point Computation.

6. Architectural Design Metrics are _____ in nature.

- a) Black Box
- b) White Box
- c) Gray Box
- d) Green Box

[View Answer](#)

Answer: a

Explanation: They are “black box” in that they do not require any knowledge of the inner workings of a particular software component.

7. Structural complexity of a module i is given as $S(i) = f^*f(i)$. What does f symbolizes here?

- a) “fan check-out” of module i
- b) “fan check-in” of module i
- c) “fan in” of module i
- d) “fan out” of module i

[View Answer](#)

Answer: d

Explanation: Fan out is number of modules directly invoked by module i .

8. SMI stands for

- a) Software Mature Indicator
- b) Software Maturity Index
- c) Software Mature Index
- d) Software Maturity Indicator

[View Answer](#)

Answer: b

Explanation: None.

9. As the SMI approaches 1.0, the software product starts becoming unstable

- a) True

- b) False

[View Answer](#)

Answer: b

Explanation: As the SMI approaches 1.0, the software product begins to stabilize.

10. $SMI = [Mt - (Fa + Fc + Fd)]/Mt$. Here Mt is the number of modules

- a) in the current release
- b) in the current release that have been changed
- c) from the preceding release that were deleted in the current release
- d) none of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

11. The amount of time that the software is available for use is known as

- a) Reliability
- b) Usability
- c) Efficiency
- d) Functionality

[View Answer](#)

Answer: a

Explanation: None.

12. Usability in metric analysis is defined as the degree to which the software

- a) stated needs
- b) is easy to use
- c) makes optimal use of system resources
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: None

1. Size and Complexity are a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Product Metrics describe the characteristics of product.

2. Cost and schedule are a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Project Metrics describe the project characteristics and execution.

3. Number of errors found per person hours expended is an example of a

- a) measurement
- b) measure
- c) metric
- d) all of the mentioned

[View Answer](#)

Answer: c

Explanation: Metric is a quantitative measure of the degree to which a system, component, or process possesses a given attribute.

4. Which of the following is not categorized under Product Operation of McCall's Software Quality Factors?

- a) Flexibility
- b) Reliability
- c) Usability
- d) Integrity

[View Answer](#)

Answer: a

Explanation: Flexibility is a part of Product revision as per McCall's Software Quality Factors.

5. The arc-to-node ratio is given as $r = a/n$. What does 'a' represent in the ratio?

- a) maximum number of nodes at any level
- b) longest path from the root to a leaf
- c) number of modules
- d) lines of control

[View Answer](#)

Answer: d

Explanation: 'a' represents the arcs or the lines of control.

6. Which of the following is not categorized under Component-Level Design Metrics?

- a) Complexity Metrics
- b) Cohesion Metrics
- c) Morphology Metrics
- d) Coupling Metrics

[View Answer](#)

Answer: c

Explanation: Morphology metrics are a part of High level design metrics.

7. Percentage of modules that were inspected is a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

8. Metric is the act of obtaining a measure.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Measurement is the act of obtaining a measure.

9. MTTC falls the the category of

- a) correctness
- b) integrity
- c) maintainability

d) all of the mentioned

[View Answer](#)

Answer: c

Explanation: Mean time to change (MTTC) is the time it takes to analyze the change request, design an appropriate modification, implement the change, test it, and distribute the change to all users.

10. Identify the correct option with reference to Software Quality Metrics.

- a) Integrity = $[\Sigma(1 - threat)] * (1 - security)$
- b) Integrity = $[1 - \Sigma(threat)] * (1 - security)$
- c) Integrity = $[1 - threat * \Sigma(1 - security)]$.
- d) Integrity = $\Sigma[1 - threat * (1 - security)]$.

[View Answer](#)

Answer: d

Explanation: None.

1. Architectural design is a creative process satisfying only functional-requirements of a system.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: In architectural design you design a system organization satisfying the functional and non-functional requirements of a system.

2. A _____ view shows the system hardware and how software components are distributed across the processors in the system.

- a) physical
- b) logical
- c) process
- d) all of the mentioned

[View Answer](#)

Answer: a

Explanation: A physical view is implemented by system engineers implementing the system hardware.

3. The UML was designed for describing _____

- a) object-oriented systems
- b) architectural design
- c) SRS
- d) Both object-oriented systems and Architectural design

[View Answer](#)

Answer: d

Explanation: The UML was designed for describing object-oriented systems and, at the architectural design stage, you often want to describe systems at a higher level of abstraction.

4. Which of the following view shows that the system is composed of interacting processes at run time?

- a) physical
- b) development
- c) logical
- d) process

[View Answer](#)

Answer: d

Explanation: This view is useful for making judgments about non-functional system characteristics such as performance and availability.

5. Which of the following is an architectural conflict?

- a) Using large-grain components improves performance but reduces maintainability
- b) Introducing redundant data improves availability but makes security more difficult
- c) Localizing safety-related features usually means more communication so degraded performance
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: High availability architecture can be affected by several design factors that are required to be maintained to ensure that no single points of failure exist in such design.

6. Which of the following is not included in Architectural design decisions?

- a) type of application
- b) distribution of the system
- c) architectural styles
- d) testing the system

[View Answer](#)

Answer: d

Explanation: Architectural design decisions include decisions on the type of application, the distribution of the system, the architectural styles to be used, and the ways in which the architecture should be documented and evaluated.

7. Architecture once established can be applied to other products as well.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Systems in the same domain often have similar architectures that reflect domain concepts.

8. Which of the following pattern is the basis of interaction management in many web-based systems?

- a) architecture
- b) repository pattern
- c) model-view-controller
- d) different operating system

[View Answer](#)

Answer: c

Explanation: Model-View-Controller pattern is the basis of interaction management in many web-based systems.

9. What describes how a set of interacting components can share data?

- a) model-view-controller
- b) architecture pattern
- c) repository pattern
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: The majority of systems that use large amounts of data are organized around a shared database or repository.

10. Which view in architectural design shows the key abstractions in the system as objects or object classes?

- a) physical
- b) development
- c) logical
- d) process

[View Answer](#)

Answer: c

Explanation: It is possible to relate the system requirements to entities in a logical view.

11. Which of the following is a type of Architectural Model?

- a) Static structural model
- b) Dynamic process model
- c) Distribution model
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All these models reflects the basic strategy that is used to structure a system.

1. Which of these following sensor is a useful as part of a burglar alarm system for commercial buildings?

- a) Movement detector
- b) Door sensor
- c) Window sensor
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: A burglar alarm system for commercial buildings include movement detectors in individual rooms, door sensors that detect corridor doors opening, and window sensors on ground-floor windows that can detect when a window has been opened.

2. Which of the following is not real-time architectural patterns that are commonly used?

- a) Asynchronous communication
- b) Observe and React
- c) Environmental Control
- d) Process Pipeline

[View Answer](#)

Answer: a

Explanation: These patterns can be combined and you will often see more than one of them in a single system.

3. A monitoring system examines its environment through

- a) operating system
- b) communication
- c) set of sensors
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: If some exceptional event or sensor state is detected by the system, the monitoring system takes some action. Often, this involves raising an alarm to draw an operator's attention to the event.

4. Which of the following is applicable on software radio?

- a) Environmental Control
- b) Process Pipeline
- c) Distributed system
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: A software radio accepts incoming packets of digital data representing the radio transmission and transforms these into a sound signal that people can listen to.

5. An example of a system that may use a process pipeline is a high-speed

- a) data distributing system
- b) data acquisition system
- c) data collector system
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Data acquisition systems collect data from sensors for subsequent processing and analysis.

6. Monitoring systems are an important class of embedded real-time systems.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: A monitoring system examines its environment through a set of sensors and, usually, displays the state of the environment in some way.

7. Which of the following is an example of a controller for a car braking system?

- a) Observe and React
- b) Process Pipeline
- c) Environmental Control
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: An anti-skid braking system in a car monitors the car's wheels and brake system .

8. ETL stands for

- a) Data Extraction Transformation & Loading
- b) Data Execution Transformation & Loading
- c) Extraction Transformation & Loading
- d) Execution Transformation & Loading

[View Answer](#)

Answer: a

Explanation: None.

9. Control systems may make use of the Environmental Control pattern, which is a general control pattern that includes _____ processes.

- a) sensor
- b) actuator
- c) pipeline
- d) both sensor and actuator

[View Answer](#)

Answer: d

Explanation: Such patterns are quite common in Environmental Control Systems.

10. _____ can be associated with a separate processor or core, so that the processing steps can be carried out in parallel.

- a) Process Pipeline
- b) Environmental Control
- c) Observe and React
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: The Process Pipeline pattern makes this rapid processing possible by breaking down the required data processing into a sequence of separate transformations, with each transformation carried out by an independent process

1. Which of the following examples is/are models of application architectures?

- a) a means of assessing components for reuse
- b) a design checklist
- c) a vocabulary for talking about types of applications
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: Application architectures encapsulate the principal characteristics of a class of systems.

2. ERP stands for

- a) Enterprise Research Planning
- b) Enterprise Resource Planning
- c) Enterprise Resource Package
- d) Enterprise Research Package

[View Answer](#)

Answer: b

Explanation: None.

3. Which of the following type describes application architectures?

- a) Transaction processing applications
- b) Language processing systems
- c) Client management systems
- d) Transaction processing applications and Language processing systems

[View Answer](#)

Answer: d

Explanation: Transaction processing applications are database-centered applications that process user

requests for information and update the information in a database, while language processing systems are systems in which the user's intentions are expressed in a formal language.

4. All the operations in a transaction need to be completed before the database changes are made

- a) functional
- b) available to the users
- c) permanent
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: This ensures that failure of operations within the transaction does not lead to inconsistencies in the database.

5. Systems that involve interaction with a shared database can be considered as.

- a) software-based
- b) transaction-based
- c) server-based
- d) client-based

[View Answer](#)

Answer: b

Explanation: Such systems with a shared database are also referred to as transaction based information systems.

6. What translates a natural or an artificial language into another representation of that language and, for programming languages also execute the resulting code?

- a) ERP systems
- b) Transaction-based information systems
- c) Language processing systems
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: In software engineering, compilers translate an artificial programming language into machine code.

7. Properties of a system such as performance and security are independent of the architecture used.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Properties such as performance, security, and availability are influenced by the architecture used.

8. Which of the following is/are commonly used architectural pattern(s)?

- a) Model-View-Controller
- b) Layered Architecture
- c) Client-server
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Commonly used architectural patterns include Model-View-Controller, Layered Architecture, Repository, Client–server, and Pipe and Filter.

9. A language-processing systems may translate an XML data description into

- a) a machine code
- b) an alternative XML representation
- c) machine code and alternative XML representation
- d) a software module

[View Answer](#)

Answer: c

Explanation: Such is the property and function of language processing system.

10. Transaction processing systems may be organized as a _____ architecture with system components responsible for input, processing, and output.

- a) Repository
- b) Client–server
- c) Model-View-Controller
- d) Pipe and Filter

[View Answer](#)

Answer: d

Explanation: None.

1. Which web app attribute is defined by the statement:"A large number of users may access the WebApp at one time"?

- a) Unpredictable load
- b) Performance
- c) Concurrency
- d) Network intensiveness

[View Answer](#)

Answer: c

Explanation: None.

2. Which web app attribute is defined by the statement:"The quality and aesthetic nature of content remains an important determinant of the quality of a WebApp"?

- a) Availability
- b) Data driven
- c) Content sensitive
- d) Continuous evolution

[View Answer](#)

Answer: c

Explanation: None.

3. If the user queries a collection of large databases and extracts information from the webapp, the webapp is categorized under

- a) Service oriented app
- b) Database access app
- c) Portal app
- d) Data warehousing app

[View Answer](#)

Answer: d

Explanation: The Data Warehouse is a stable, read-only database that combines information from separate systems into one, easy-to-access location.

4. Which process model should be used in virtually all situations of web engineering?

- a) Incremental Model
- b) Waterfall Model
- c) Spiral Model
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: The web engineering process must accommodate incremental delivery, frequent changes and short timeline.

5. Which analysis is a part of Analysis model of the web engineering process framework?

- a) Content Analysis
- b) Interaction Analysis
- c) Functional Analysis
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Analysis model establishes a basis for design which requires all the mentioned options.

6. Web development and software development are one and the same thing.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: They are different due to the nature and distinct requirements of Web-based systems.

7. Web-based systems are often document-oriented containing static or dynamic content.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: In web-based systems, more emphasis is on "look and feel" of the product.

8. Web-based systems apply the same levels of formal planning and testing used in software development.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Web-based systems are typically constrained to a short development time making it difficult to apply the same levels of formal planning and testing used in software development.

9. Which of the following statements are incorrect with reference to web-based systems? Web-based systems

- a) should be unscalable
- b) must be able to cope with uncertain, random heavy demands on services
- c) must be secure
- d) are subject to assorted legal, social, and ethical scrutiny

[View Answer](#)

Answer: a

Explanation: Web-based systems should be scalable.

10. What category of web-based system would you assign to electronic shopping?

- a) Informational
- b) Interactive
- c) Transaction-oriented
- d) Workflow-oriented

[View Answer](#)

Answer: c

Explanation: It involves usage of transaction management of database systems.

11. What category of web-based system would you assign to discussion groups?

- a) Collaborative work
- b) Online communities
- c) Web portals
- d) Workflow-oriented

[View Answer](#)

Answer: b

Explanation: None.

12. W3C stands for

- a) World Wide Web Consortium
- b) World Wide Web Collaboration
- c) World Wide Web Community
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: W3C is an international consortium where member organizations, a full-time staff, and the public work together to develop web standards.

13. Which of the following is a risk associated with using hypertext in web applications?

- a) Loss of sense of locality and direction
- b) Cognitive overload for users
- c) All of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Hypertexts and links may divert the users attention from the main content.

1. What are the problems with re-structuring?

- a) Loss of comments
- b) Loss of documentation
- c) Heavy computational demands

d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Restructuring doesn't help with poor modularisation where related components are dispersed throughout the code.

2. Which of the following is not a module type?

- a) Object modules
- b) Hardware modules
- c) Functional modules
- d) Process support modules

[View Answer](#)

Answer: a

Explanation: Except option a all other are module types.

3. Reverse engineering of data focuses on

- a) Internal data structures
- b) Database structures
- c) ALL of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

4. Forward engineering is not necessary if an existing software product is producing the correct output.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Forward engineering refers to taking a high-level model and using it to build a more complex lower-level implementation.

5. Which of the following is not an example of a business process?

- a) designing a new product
- b) hiring an employee
- c) purchasing services
- d) testing software

[View Answer](#)

Answer: d

Explanation: It is a part of development phase.

6. Which of the following is a data problem?

- a) hardware problem
- b) record organisation problems
- c) heavy computational demands
- d) loss of comments

[View Answer](#)

Answer: b

Explanation: Records representing the same entity may be organised differently in different programs.

7. When does one decides to re-engineer a product?

- a) when tools to support restructuring are disabled
- b) when system crashes frequently
- c) when hardware or software support becomes obsolete
- d) subsystems of a larger system require few maintenance

[View Answer](#)

Answer: c

Explanation: Re-engineering involves putting in the effort to make the system easier to maintain.

8. Which of the following is not a business goal of re-engineering ?

- a) Cost reduction
- b) Time reduction
- c) Maintainability
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: No such goal is mentioned which is not a business goal, so option d is correct here.

9. Which of these benefits can be achieved when software is restructured?

- a) Higher quality programs
- b) Reduced maintenance effort
- c) Software easier to test
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: The answer is self explanatory.

10. Data re-engineering may be part of the process of migrating from a file-based system to a DBMS-based system or changing from one DBMS to another.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Data re-engineering involves analyzing and reorganizing the data structures in a program.

11. BPR stands for

- a) Business process re-engineering
- b) Business product re-engineering
- c) Business process requirements
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: The answer is self explanatory.

12. Source code translation is a part of which re-engineering technique?

- a) Data re-engineering
- b) Refactoring
- c) Restructuring
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Restructuring involves automatic conversion from unstructured to structured code.

1. In reverse engineering process, what refers to the sophistication of the design information that can be extracted from the source code?

- a) interactivity
- b) completeness
- c) abstraction level
- d) direction level

[View Answer](#)

Answer: c

Explanation: None.

2. In reverse engineering, what refers to the level of detail that is provided at an abstraction level?

- a) interactivity
- b) completeness
- c) abstraction level
- d) directionality

[View Answer](#)

Answer: b

Explanation: None.

3. The core of reverse engineering is an activity called

- a) restructure code
- b) directionality
- c) extract abstractions
- d) interactivity

[View Answer](#)

Answer: c

Explanation: The engineer must evaluate the old program and extract a meaningful specification of the processing that is performed, the user interface that is applied, and the program data structures or database that is used.

4. What have become de rigueur for computer-based products and systems of every type?

- a) GUIs
- b) Candidate keys
- c) Object model
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Therefore, the redevelopment of user interfaces has become one of the most common types of re-engineering activity. But before a user interface can be rebuilt, reverse engineering should occur.

5. Forward engineering is also known as
- a) extract abstractions
 - b) renovation
 - c) reclamation
 - d) both renovation and reclamation

[View Answer](#)

Answer: d

Explanation: Forward engineering, also called renovation or reclamation , not only recovers design information from existing software, but uses this information to alter or reconstitute the existing system in an effort to improve its overall quality.

6. Reverse engineering is the process of deriving the system design and specification from its
- a) GUI
 - b) Database
 - c) Source code
 - d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: None

7. Reverse engineering techniques for internal program data focus on the definition of classes of objects.
- a) True
 - b) False

[View Answer](#)

Answer: a

Explanation: This is accomplished by examining the program code with the intent of grouping related program variables.

8. Which of the following steps may not be used to define the existing data model as a precursor to re-engineering a new database model:
- a) Build an initial object model
 - b) Determine candidate keys
 - c) Refine the tentative classes
 - d) Discover user interfaces

[View Answer](#)

Answer: d

Explanation: Once information defined in the preceding steps is known, a series of transformations can be applied to map the old database structure into a new database structure.

9. Much of the information necessary to create a behavioral model can be obtained by observing the external manifestation of the existing
- a) candidate keys
 - b) interface
 - c) database structure
 - d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: The GUI or the interface provides the base for the behavioral model.

10. Extracting data items and objects, to get information on data flow, and to understand the existing data structures that have been implemented is sometimes called

- a) data analysis
- b) directionality
- c) data extraction
- d) client applications

[View Answer](#)

Answer: a

Explanation: None.

11. Reverse engineering and Re-engineering are equivalent processes of software engineering.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Re engineering is a process of analysis and change whereby a system is modified by first reverse engineering and then forward engineering.

12. Transformation of a system from one representational form to another is known as

- a) Re-factoring
- b) Restructuring
- c) Forward engineering
- d) Both Re-factoring and Restructuring

[View Answer](#)

Answer: d

Explanation: None.

13. Which of the following is not an objective of reverse engineering?

- a) to reduce maintenance effort
- b) to cope with complexity
- c) to avoid side effects
- d) to assist migration to a CASE environment

[View Answer](#)

Answer: d

Explanation: Reverse engineering helps us to detect side effects rather than avoiding them

1. Which of the following is software engineer's primary characteristics?

- a) A collection of useful tools that will help in every step of building a product
- b) An organized layout that enables tools to be found quickly and used efficiently
- c) A skilled artisan who understands how to use the tools in an effective manner
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

2. Database management software serves as a foundation for the establishment of a CASE database (repository) that we call

- a) project database
- b) system database

- c) analysis and design tools
 - d) prototyping tools
- [View Answer](#)

Answer: a

Explanation: Given the emphasis on configuration objects, database management tools for CASE are evolving from relational database management systems to object oriented database management systems.

3. What enables a software engineer to define screen layout rapidly for interactive applications?

- a) Analysis and design tools
- b) Tool kit
- c) Screen painters
- d) PRO/SIM tools

[View Answer](#)

Answer: c

Explanation: More sophisticated CASE prototyping tools enable the creation of a data design, coupled with both screen and report layouts.

4. _____ tools assist in the planning, development, and control in CASE.

- a) Dynamic measurement
- b) Data acquisition
- c) Test management
- d) Cross-functional tools

[View Answer](#)

Answer: c

Explanation: None.

5. Which tools cross the bounds of the preceding categories?

- a) Data acquisition
- b) Dynamic measurement
- c) Cross-functional tools
- d) Simulation

[View Answer](#)

Answer: c

Explanation: None.

6. Which environment demands specialized testing tools that exercise the graphical user interface and the network communications requirements for client and server?

- a) Dynamic analysis
- b) Client/Server
- c) Re-engineering
- d) Test management

[View Answer](#)

Answer: b

Explanation: A client/server architecture is GUI based.

7. Which tools are used to modify online database systems?

- a) Reverse engineering specification tools
- b) Code restructuring and analysis tools

- c) Test management tools
- d) online system re-engineering tools

[View Answer](#)

Answer: d

Explanation: For example these tools convert IDMS or DB2 files into entity-relationship format.

8. Which is the definition of objects in the database that leads directly to a standard approach for the creation of software engineering documents.

- a) Document standardization
- b) Data integrity
- c) Information sharing
- d) Data/data integration

[View Answer](#)

Answer: a

Explanation: None.

9. Which of the following term is best defined by the statement: "CASE tools and the target applications are isolated from physical storage so they are not affected when the hardware configuration is changed."?

- a) Non-redundant data storage
- b) Data independence
- c) Data dependence
- d) Ad Hoc data queries and reports

[View Answer](#)

Answer: b

Explanation: None.

10. Which of the following term is best define by the statement:"Each object is stored only once, but is accessible by all CASE tools that need it."?

- a) Non-redundant data storage
- b) Data independence
- c) Transaction control
- d) Ad Hoc data queries and reports

[View Answer](#)

Answer: a

Explanation: None.

1. CASE stands for

- a) Cost Aided Software Engineering
- b) Computer Aided Software Engineering
- c) Control Aided Software Engineering
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: CASE tools purpose is to make the work of software development and maintenance easier and more reliable.

2. CASE tools are used only during the software testing phase.

- a) True

b) False

[View Answer](#)

Answer: b

Explanation: CASE tools support the developer when performing one or more phases of the software life cycle and/or support software maintenance.

3. Which of the following is not a type of CASE tool?

- a) Lower
- b) Classic
- c) Real
- d) Middle

[View Answer](#)

Answer: d

Explanation: Lower and Upper CASE tools support analysis and design.

4. What stores all changes and info related to the project from development through maintenance in CASE tools?

- a) Database
- b) Repository
- c) Registers
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: The main component of real CASE tools is the repository which stores all changes.

5. What kind of support is provided by the Repository Query CASE tool?

- a) Editing text and diagrams
- b) Display of parts of the design texts
- c) Cross referencing queries and requirements tracing
- d) Display of parts of the design texts AND Cross referencing queries and requirements tracing

[View Answer](#)

Answer: d

Explanation: None.

6. What kind of support is provided by the Code Generation CASE tool?

- a) Cross referencing queries and requirements tracing
- b) Transformation of design records into application software
- c) Compiling, interpreting or applying interactive debugging code
- d) Transformation of design records into application software AND Compiling, interpreting or applying interactive debugging code

[View Answer](#)

Answer: b

Explanation: Code Generation tool aids in transformation of design records into prototypes or application software compatible with a given software development language.

7. Logical design errors can be resolved using both classic and real CASE tools.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Classic CASE tools include interactive debuggers and compilers which do not serve the required purpose.

8. CASE-generated updated documentation enables easier and more reliable identification of software failure causes.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: None.

9. What kind of support is provided by the Code Editing CASE tool?

- a) Management of design documents and software code versions
- b) Transformation of design records into application software
- c) Compiling, interpreting or applying interactive debugging code
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Code editing tool serves the purpose of compiling, interpreting or applying interactive debugging code specific coding language or development tool.

10. Use of the repository assures automated coding and documentation of corrections.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Use of the repository assures consistency of new applications and improvements with existing software systems.

11. Which of the following is a drawback of using CASE tool?

- a) Standardization of notations and diagrams
- b) Communication between development team member
- c) Costs associated with the use of the tool
- d) Reduction of time and effort

[View Answer](#)

Answer: c

Explanation: Using CASE tools is an expensive approach.

12. An upper CASE tool is also referred to as a back end CASE.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: An upper CASE tool (front end CASE) provides support for the early stages in the systems development life cycle such as requirements analysis and design.

13. CASE tools are mainly used while developing which of the following methodologies?

- a) RAD
- b) JAD
- c) OO Approach
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: CASE tools are used in various stages of the Software Development Life Cycle.

1. Which of the following is not a phase of “bathtub curve” of hardware reliability?

- a) Useful Life
- b) Burn-in
- c) Wear-out
- d) Time

[View Answer](#)

Answer: d

Explanation: Time is the horizontal dimension on which the bathtub curve is built and not the phase.

2. How is reliability and failure intensity related to each other?

- a) direct relation
- b) inverse relation
- c) no relation
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: As the reliability increases, failure intensity decreases.

3. How many product quality factors are proposed in McCall quality model?

- a) 2
- b) 3
- c) 11
- d) 8

[View Answer](#)

Answer: b

Explanation: McCall quality model has three product quality factors namely: Product revision, Product operation, Product Transition .

4. Which one of the following is not a software quality model?

- a) ISO 9000
- b) McCall model
- c) Boehm model
- d) ISO 9126

[View Answer](#)

Answer: a

Explanation: ISO-9000 series of standards is a set of document dealing with quality systems that can be used for quality assurance purposes.

5. What is MTTF ?

- a) Maximum time to failure

- b) Mean time to failure
- c) Minimum time to failure
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

6. How is software reliability defined?

- a) time
- b) efficiency
- c) quality
- d) speed

[View Answer](#)

Answer: a

Explanation: Software Reliability mainly concerned with the time component. It can be seen in various models like Basic Execution Time Model and Logarithmic Poisson Execution Time Model.

7. Suitability, Accuracy, Interoperability, and security are what type quality attribute of ISO 9126 ?

- a) Reliability
- b) Efficiency
- c) Functionality
- d) Usability

[View Answer](#)

Answer: c

Explanation: All the Characteristics mentioned in the question are related to achievement of the basic purpose for which the software is being engineered, which is functionality.

8. Time Behavior and Resource Behavior fall under which quality attribute of ISO 9126 ?

- a) Reliability
- b) Efficiency
- c) Functionality
- d) Usability

[View Answer](#)

Answer: b

Explanation: The Characteristics mentioned in the question are related to the relationship between the level of performance of the software and the amount of resources used, under stated conditions.

9. NHPP stands for

- a) Non Homogeneous Poisson Product
- b) Non-Hetrogeneous Poisson Product
- c) Non-Hetrogeneous Poisson Process
- d) Non Homogeneous Poisson Process

[View Answer](#)

Answer: d

Explanation: None.

10. The CMM model is a technique to

- a) automatically maintain the software reliability
- b) improve the software process.

- c) test the software
- d) all of the mentioned

[View Answer](#)

Answer: b

Explanation: Capability Maturity Model (CMM) is a strategy for improving the software process, irrespective of the actual life cycle model used.

1. What type of fault remains in the system for some period and then disappears?

- a) Permanent
- b) Transient
- c) Intermittent
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: For example many faults in communication systems are transient in nature.

2. Which of the following approaches are used to achieve reliable systems?

- a) Fault prevention
- b) Fault removal
- c) Fault tolerance
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options lead to formation of a reliable system.

3. A system maintaining its integrity while accepting a temporary halt in its operation is said to be in a state of

- a) Full Fault Tolerance
- b) Graceful Degradation
- c) Fail Soft
- d) Fail Safe

[View Answer](#)

Answer: d

Explanation: None.

4. Which of the following Error Detection checks is not a part of Application detection?

- a) Hardware checks
- b) Timing checks
- c) Reversal checks
- d) Coding checks

[View Answer](#)

Answer: a

Explanation: Hardware is a part of environment detection check.

5. Exception handling is a type of

- a) forward error recovery mechanism
- b) backward error recovery mechanism
- c) All of the mentioned

d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Exception handling is a forward error recovery mechanism, as there is no roll back to a previous state; instead control is passed to the handler so that recovery procedures can be initiated.

6. Non-occurrence of improper alteration of information is known as

- a) Available Dependability
- b) Confidential Dependability
- c) Maintainable Dependability
- d) Integral Dependability

[View Answer](#)

Answer: d

Explanation: Integrity is to keep the original content safe from alteration.

7. In N-version programming which is the independent generation of N, the value of N is

- a) greater than 1
- b) less than 1
- c) greater than 2
- d) less than 2

[View Answer](#)

Answer: c

Explanation: N-version programming (NVP), also known as multiversion programming or multiple-version dissimilar software, is a method or process in software engineering where multiple functionally equivalent programs are independently generated from the same initial specifications.

8. In Log-based fault tolerance, logs of undetermined events are saved and replayed on failure.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: None.

9. All fault-tolerant techniques rely on

- a) Integrity
- b) Dependability
- c) Redundancy
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: All fault-tolerant techniques rely on extra elements introduced into the system to detect & recover from faults.

10. It is imperative for a communicating processes to reach consistent recovery points to avoid the _____ effect, with backward error recovery mechanism.

- a) Static
- b) Dynamic
- c) Domino

d) Whirlpool

[View Answer](#)

Answer: c

Explanation: None.

1. Which one is not a software quality model?

- a) ISO 9000
- b) McCall model
- c) Boehm model
- d) ISO 9126

[View Answer](#)

Answer: a

Explanation: ISO 9000 is software certification.

2. How many levels are present in CMM?

- a) three
- b) four
- c) five
- d) six

[View Answer](#)

Answer: c

Explanation: The five levels are: initial, repeatable, defined, managed, optimizing.

3. Which level of CMM is for process management?

- a) Initial
- b) Repeatable
- c) Defined
- d) Optimizing

[View Answer](#)

Answer: d

Explanation: It is a characteristic of processes at this level that the focus is on continually improving process performance through both incremental and innovative technological changes/improvements.

4. In ISO 9126, time behavior and resource utilization are a part of

- a) maintainability
- b) portability
- c) efficiency
- d) usability

[View Answer](#)

Answer: c

Explanation: A set of attributes that bear on the relationship between the level of performance of the software and the amount of resources used, under stated conditions.

5. Which of the following is not a Probabilistic Model?

- a) Error seeding
- b) NHPP
- c) Input domain
- d) Halstead's software metric

[View Answer](#)

Answer: d

Explanation: Halstead's software metric is a deterministic model.

6. Software reliability is defined with respect to

- a) time
- b) bugs
- c) failures
- d) quality

[View Answer](#)

Answer: a

Explanation: None.

7. Failure In Time (FIT) is another way of reporting

- a) MTTR
- b) MTTF
- c) MTSF
- d) MTBF

[View Answer](#)

Answer: d

Explanation: FIT reports the number of expected failures per one billion hours of operation for a device. This term is used particularly by the semiconductor industry but is also used by component manufacturers.

8. MTTF stands for

- a) Minimum time to failure
- b) Mean time to failure
- c) Maximum time to failure
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

9. Mean Time To Repair (MTTR) is the time needed to repair a failed hardware module.

- a) True
- b) False

[View Answer](#)

Answer: a

10. IMC Networks is a leading _____ certified manufacturer of optical networking and LAN/WAN connectivity solutions for enterprise, telecommunications and service provider applications.

- a) Telco Systems
- b) D-Link
- c) Arista Networks
- d) ISO 9001

[View Answer](#)

Answer: a

1. Software is considered to be collection of _____.

- A. programming code
- B. associated libraries
- C. documentations
- D. All of the above

[View Answer](#)

Ans : D

2. The process of developing a software product using software engineering principles and methods is referred to as _____.

- A. Software Engineering
- B. software Evolution
- C. System Models
- D. Software Models

[View Answer](#)

Ans : B

3. Lehman has given laws for software evolution and he divided the software into _____ different categories.

- A. 6
- B. 2
- C. 3
- D. 5

[View Answer](#)

Ans : C

4. Which of the following is not consider laws for E-Type software evolution?

- A. Continuing quality
- B. Continuing change
- C. Increasing complexity
- D. Self-regulation

[View Answer](#)

Ans : A

5. Which of the following laws for E-Type says "E-type software system must continue to adapt to the real world changes, else it becomes progressively less useful".

- A. Continuing growth
- B. Continuing change
- C. Conservation of familiarity
- D. Self-regulation

Ans : B

6. Which of the following is the Characteristics of good software?

- A. Transitional
- B. Operational
- C. Maintenance
- D. All of the above

Ans : D

7. Where there is a need of Software Engineering?

- A. For Large Software
- B. To reduce Cost
- C. Software Quality Management
- D. All of the above

[View Answer](#)

Ans : D

8. The reason for software bugs and failures is due to_____.

- A. Software Developers
- B. Software companies
- C. Both A and B
- D. None of the above

[View Answer](#)

Ans : C

9. Efficiency in a software product does not include _____

- A. licensing
- B. processing time
- C. responsiveness
- D. memory utilization

[View Answer](#)

Ans : A

10. What are attributes of good software ?

- A. Software functionality
- B. Software development
- C. Software maintainability
- D. Both A and C

[View Answer](#)

Ans : D

1. RAD stands for

- A. Rapid Application Development
- B. Required Application Development
- C. Rapid Application Developers
- D. Rapid Application Disposition

[View Answer](#)

Ans : A

Explanation: RAD stands for Rapid Application Development.

2. Which of the following are valid step in SDLC framework?

- A. Requirement Gathering
- B. System Analysis
- C. Software Design
- D. All of the above

[View Answer](#)

Ans : D

Explanation: All of the above are valid step in SDLC framework

3. Which of the following is the first step in SDLC framwork?

- A. Feasibility Study
- B. Requirement Gathering
- C. Communication
- D. System Analysis

[View Answer](#)

Ans : C

Explanation: Communication : This is the first step where the user initiates the request for a desired software product.

4. Which of the following is not correct model in Software Development Paradigm?

- A. Waterfall Model
- B. P model
- C. Spiral Model
- D. V model

[View Answer](#)

Ans : B

Explanation: There is no model name P-Model in Software Development Paradigm.

5. Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code).

- A. 100-200
- B. 300-400
- C. 600-700
- D. Above 800+

[View Answer](#)

Ans : A

Explanation: Build & Fix Model is suitable for small projects & programming exercises of 100 or 200 lines.

6. Waterfall model is not suitable for:

- A. Small projects
- B. Complex projects
- C. Accommodating changes
- D. Maintenance Projects

[View Answer](#)

Ans : C

Explanation: Waterfall model is not suitable for Accommodating changes.

7. In the maintenance phase the product must be tested against previous test cases. This is known as _____ testing.

- A. Unit
- B. Regression
- C. Acceptance
- D. Integration

[View Answer](#)

Ans : B

Explanation: In the maintenance phase the product must be tested against previous test cases. This is known as Regression testing.

8. Which type of integration testing uses stubs?

- A. Top down testing
- B. Bottom up testing
- C. Both in top down and bottom up testing
- D. System testing

[View Answer](#)

Ans : A

Explanation: Top down testing is a type of integration testing uses stubs.

9. Which one of the following is a functional requirement?

- A. Maintainability
- B. Portability
- C. Business needs
- D. Reliability

[View Answer](#)

Ans : C

Explanation: Business needs is a functional requirement.

10. What is the major drawback of using RAD Model?

- A. Highly specialized & skilled developers/designers are required
- B. Increases reusability of components
- C. Encourages customer/client feedback
- D. Increases reusability of components, Highly specialized & skilled developers/designers are required

[View Answer](#)

Ans : D

1. The process to gather the software requirements from client, analyze and document them is known as _____.

- A. Feasibility Study
- B. Requirement Gathering
- C. Requirement Engineering
- D. System Requirements Specification

[View Answer](#)

Ans : C

Explanation: The process to gather the software requirements from client, analyze and document them is known as requirement engineering.

2. The goal of requirement engineering is to develop and maintain sophisticated and descriptive _____ document.

- A. Feasibility Study
- B. Requirement Gathering
- C. Software Requirement Validation
- D. System Requirements Specification

[View Answer](#)

Ans : D

Explanation: The goal of requirement engineering is to develop and maintain sophisticated and descriptive "System Requirements Specification" document.

3. It is the process in which developers discuss with the client and end users and know their expectations from the software.

- A. Requirements gathering
- B. Organizing Requirements
- C. Negotiation & discussion
- D. Documentation

[View Answer](#)

Ans : A

Explanation: Requirements gathering : The developers discuss with the client and end users and know their expectations from the software.

4. Which of the following is correct software metrics?

- A. Complexity Metrics
- B. Quality Metrics
- C. Process Metrics
- D. All of the above

[View Answer](#)

Ans : D

Explanation: All of the above is correct software metrics.

5. Size Metrics denoted by?

- A. LOC
- B. KLOC
- C. GLOC
- D. ZLOC

[View Answer](#)

Ans : B

Explanation: LOC (Lines of Code), mostly calculated in thousands of delivered source code lines, denoted as KLOC.

6. What are the types of requirement in Quality Function Deployment(QFD) ?

- A. Known, Unknown, Undreamed
- B. User, Developer
- C. Functional, Non-Functional
- D. Normal, Expected, Exciting

[View Answer](#)

Ans : D

Explanation: According to QFD, Normal, Expected and Exciting requirements maximizes customer satisfaction from the Software Engineering Process.

7. Why is Requirements Elicitation a difficult task ?

- A. Problem of scope
- B. Problem of understanding
- C. Problem of volatility
- D. All of the above

[View Answer](#)

Ans : D

Explanation: Users specify unnecessary technical detail that may confuse, rather than clarify overall system objectives. Also, the customers/users are not completely sure of what is needed, have a poor understanding of the capabilities and limitations of their computing environment and they do not understand that the requirements change over time.

8. What is the major drawback of CORE ?

- A. Requirements are comprehensive
- B. NFRs are not given enough importance
- C. Role of analyst is passive
- D. All of the above

[View Answer](#)

Ans : C

Explanation: In CORE the requirement specification are put together by all users, customers and analysts, so a passive analyst will not get the requirements properly.

9. How many steps are involved in Feature Oriented Domain Analysis (FODA) ?

- A. 2
- B. 3
- C. 4
- D. 5

[View Answer](#)

Ans : B

Explanation: Context Analysis, Domain Modeling and Architecture Modeling are the three steps involved in Feature Oriented Domain Analysis (FODA).

10. How many phases are there in Brainstorming ?

- A. 2
- B. 3
- C. 4
- D. 5

[View Answer](#)

Ans : B

1. Software design yields _____ levels of results.

- A. 2
- B. 3
- C. 4
- D. 5

[View Answer](#)

Ans : B

Explanation: Software design yields three levels of results: Architectural Design, High-level design, Detailed Design.

2. Which of the following is not an Advantage of modularization?

- A. Smaller components are easier to maintain
- B. Concurrent execution can be made possible
- C. Program cannot be divided based on functional aspects
- D. Desired level of abstraction can be brought in the program

[View Answer](#)

Ans : C

Explanation: Program cannot be divided based on functional aspects is not an Advantage of modularization.

3. How many type of cohesion are there in software design?

- A. 5
- B. 6
- C. 7
- D. 8

[View Answer](#)

Ans : C

Explanation: There are seven types of cohesion: Co-incidental cohesion, Logical cohesion, Temporal Cohesion, Procedural cohesion, Communicational cohesion, Sequential cohesion, Functional cohesion.

4. Which of the following defines the degree of intra-dependability within elements of a module?

- A. Cohesion
- B. Coupling
- C. Design Verification
- D. None of the above

[View Answer](#)

Ans : A

Explanation: Cohesion is a measure that defines the degree of intra-dependability within elements of a module.

5. When multiple modules share common data structure and work on different part of it, it is called _____.

- A. Common coupling
- B. Share coupling
- C. Data coupling
- D. Stamp coupling

[View Answer](#)

Ans : D

Explanation: When multiple modules share common data structure and work on different part of it, it is called stamp coupling.

6. Which tool is use for structured designing ?

- A. Program Chart
- B. Structure chart
- C. Module Chart
- D. All of the above

[View Answer](#)

Ans : B

Explanation: A Structure Chart (SC) in software engineering and organizational theory, is a chart which shows the breakdown of a system to its lowest manageable levels.

7. In Design phase, which is the primary area of concern?

- A. Architecture
- B. Data
- C. Interface
- D. All of the above

[View Answer](#)

Ans : D

Explanation: Part of the design phase is to create structural and behavioral models of the system which is covered by architecture, data and the interface of the product.

8. Which of the following is the best type of module cohesion?

- A. Functional Cohesion
- B. Temporal Cohesion
- C. Functional Cohesion
- D. Sequential Cohesion

[View Answer](#)

Ans : A

Explanation: Functional Cohesion is a type of cohesion in which the tasks performed by a software module all contribute to the performance of a single function.

9. Which of the following is the worst type of module coupling?

- A. Control Coupling
- B. Stamp Coupling
- C. External Coupling
- D. Content Coupling

[View Answer](#)

Ans : D

Explanation: Content coupling occurs when module A changes data of module B or when control is passed from one module to the middle of another.

10. Choose the option that does not define Function Oriented Software Design.

- A. It consists of module definitions
- B. Modules represent data abstraction
- C. Modules support functional abstraction
- D. None of the above

[View Answer](#)

Ans : B

1. What is DFD stands for?

- A. Data Flowchart Diagram
- B. Data Flow Diagram
- C. Depict Flow Diagram
- D. Data Flow Depicts

[View Answer](#)

Ans : C

Explanation: Data flow diagram is graphical representation of flow of data in an information system.

2. Which type of DFD concentrates on the system process, and flow of data in the system?

- A. Physical DFD
- B. Logical DFD
- C. Flowchart DFD
- D. System DFD

[View Answer](#)

Ans : B

Explanation: Logical DFD : This type of DFD concentrates on the system process, and flow of data in the system. For example in a Banking software system, how data is moved between different entities.

3. How many levels of DFD is?

- A. 2
- B. 3
- C. 4
- D. 5

[View Answer](#)

Ans : B

Explanation: There are generally 3 level of DFD: level 0, level 1, level 2.

4. Which of the following is not a component in DFD?

- A. Entities
- B. Attributes
- C. Process
- D. Data Flow

[View Answer](#)

Ans : B

Explanation: Attributes is not a component in DFD.

5. HIPO model was developed by?

- A. Microsoft
- B. AT&T Labs
- C. IBM
- D. Oracle

[View Answer](#)

Ans : C

Explanation: HIPO model was developed by IBM in year 1970.

6. What is level 2 in DFD means?

- A. Highest abstraction level DFD is known as Level 2.
- B. Level 2 DFD depicts basic modules in the system and flow of data among various modules.
- C. Level 2 DFD shows how data flows inside the modules mentioned in Level 1.
- D. All of the above

[View Answer](#)

Ans : C

Explanation: Level 2 : At this level, DFD shows how data flows inside the modules mentioned in Level 1.

7. HIPO stand for?

- A. High Input Process Output
- B. High Input Provide Output
- C. Hierarchical Input Provide Output
- D. Hierarchical Input Process Output

[View Answer](#)

Ans : D

Explanation: HIPO (Hierarchical Input Process Output) diagram is a combination of two organized method to analyze the system and provide the means of documentation.

8. The context diagram is also known as _____.

- A. Level-0 DFD
- B. Level-1 DFD
- C. Level-2 DFD
- D. All of the above

[View Answer](#)

Ans : A

Explanation: Context diagram captures the various entities external to the system interacting with it and data flow occurring between the system and the external entities.

9. A directed arc or line in DFD represents

- A. Data Store
- B. Data Process
- C. Data Flow
- D. All of the above

[View Answer](#)

Ans : C

Explanation: It resembles data flow in the direction of the arrow

10. Which of the following is a function of CASE Tool?

- A. Supporting Structured analysis and design (SA/SD)
- B. Maintaining the data dictionary
- C. Checking whether DFDs are balanced or not
- D. None of the above

[View Answer](#)

Ans : A

1. Which of the following is not true about Software Validation?

- A. Validation ensures the product under development is as per the user requirements.
- B. Validation do not emphasizes on user requirements.
- C. Validation emphasizes on user requirements.
- D. Validation is carried out at the end of the SDLC.

[View Answer](#)

Ans : B

Explanation: Validation do not emphasizes on user requirements is not true about Software Validation.

2. Which of the following is true about Software Verification?

- A. Verification ensures the product being developed is according to design specifications.
- B. Verifications concentrates on the design and system specifications.
- C. Both A and B
- D. None of the above

[View Answer](#)

Ans : C

Explanation: Both option A And B are correct.

3. How many types of software testing exist?

- A. 1
- B. 2
- C. 3
- D. 4

[View Answer](#)

Ans : B

Explanation: Testing can either be done manually or using an automated testing tool.

4. Which of the following is also known as "Behavioral" testing?

- A. Black-box testing
- B. White-box testing
- C. Both A and B
- D. None of the above

[View Answer](#)

Ans : A

Explanation: Black-box testing is carried out to test functionality of the program. It is also called "Behavioral" testing.

5. SRS stands for?

- A. System requirements specification
- B. System respond software
- C. Software respond system
- D. Software requirements specification

[View Answer](#)

Ans : D

Explanation: Software requirements specification(SRS) document : Functional Requirements document

6. In which type of testing : software is compiled as product and then it is tested as a whole?

- A. Integration Testing
- B. Acceptance Testing
- C. Regression Testing
- D. None of the above

[View Answer](#)

Ans : B

Explanation: System Testing : The software is compiled as product and then it is tested as a whole.

7. Which of the following white-box testing technique is to set up test cases which covers all statements and branch conditions?

- A. Data-flow testing
- B. Boundary testing
- C. Control-flow testing
- D. Pair-wise testing

[View Answer](#)

Ans : C

Explanation: Control-flow testing : The purpose of the control-flow testing to set up test cases which covers all statements and branch conditions. The branch conditions are tested for both being true and false, so that all statements can be covered.

8. Exhaustive testing is?

- A. always possible
- B. practically possible
- C. impractical but possible
- D. impractical and impossible

[View Answer](#)

Ans : C

Explanation: Exhaustive testing is the testing where we execute single test case for multiple test data. It means if we are using single test case for different product or module under manual testing.

9. Which of the following is not used in measuring the size of the software?

- A. Size of module
- B. Function Points
- C. KLOC
- D. None of the above

[View Answer](#)

Ans : C

Explanation: KLOC and function points both can be used as size measurement for measuring the size of the software.

10. Test cases should uncover errors like

- A. Nonexistent loop termination
- B. Comparison of different data types
- C. Incorrect logical operators or precedence
- D. All of the above

[View Answer](#)

Ans : D

1. Which of the following is true about Corrective Maintenance?

- A. It includes modifications and updatations done in order to correct or fix problems, which are either discovered by user or concluded by user error reports.
- B. It includes modifications and updatations applied to keep the software product up-to date and tuned to the ever changing world of technology and business environment.
- C. It includes modifications and updates done in order to keep the software usable over long period of time.
- D. It includes modifications and updatations to prevent future problems of the software.

[View Answer](#)

Ans : A

Explanation: Corrective Maintenance : This includes modifications and updatations done in order to correct or fix problems, which are either discovered by user or concluded by user error reports.

2. Which of the following is not a type of maintenance?

- A. Adaptive Maintenance
- B. Preventive Maintenance
- C. Perfective Maintenance
- D. Performative Maintenance

[View Answer](#)

Ans : D

Explanation: Performative Maintenance is not a type of maintenance.

3. The cost of maintenance is as high as _____ of the cost of entire software process cycle.

- A. 0.61
- B. 0.63
- C. 0.67
- D. 0.71

[View Answer](#)

Ans : C

Explanation: A study on estimating software maintenance found that the cost of maintenance is as high as 67% of the cost of entire software process cycle.

4. Which process is used to achieve system specification by thoroughly analyzing, understanding the existing system?

- A. Program Restructuring
- B. Reverse Engineering
- C. Forward Engineering
- D. None of the above

[View Answer](#)

Ans : B

Explanation: Reverse Engineering : It is a process to achieve system specification by thoroughly analyzing, understanding the existing system.

5. In how many categories software Maintenance is classified?

- A. 2
- B. 3
- C. 4
- D. 5

[View Answer](#)

Ans : C

Explanation: Adaptive, corrective, perfective and preventive are the four types of software maintenance.

6. What type of software testing is generally used in Software Maintenance?

- A. Regression Testing
- B. System Testing
- C. Black-box testing
- D. White-box testing

[View Answer](#)

Ans : A

Explanation: Regression Testing is software testing is generally used in Software Maintenance.

7. Which regression test selection technique exposes faults caused by modifications?

- A. Precision
- B. Efficiency
- C. Inclusiveness
- D. Generality

[View Answer](#)

Ans : C

Explanation: Inclusiveness measures the extent to which a technique chooses test cases that will cause the modified program to produce different output than the original program, and thereby expose faults caused by modifications.

8. ACT stands for?

- A. Annual component traffic
- B. Apply component traffic
- C. Annual change track
- D. Annual change traffic

[View Answer](#)

Ans : D

Explanation: ACT : Annual change traffic.

9. The process of obtaining desired software from the specifications in hand.

- A. Re-engineering
- B. Forward Engineering
- C. Reconstructing
- D. Re-engineering

[View Answer](#)

Ans : B

Explanation: Forward engineering is a process of obtaining desired software from the specifications in hand which were brought down by means of reverse engineering. It assumes that there was some software engineering already done in the past.

10. What are legacy systems?

- A. new systems
- B. old systems
- C. under-developed systems
- D. None of the above

[View Answer](#)

Ans : B

1. CASE stands for?

- A. Computer Aid Software Engineering
- B. Computer Application Software Engineering
- C. Computer Aided Software Engineering
- D. Computer Analysis Software Engineering

[View Answer](#)

Ans : C

Explanation: CASE stands for Computer Aided Software Engineering. It means, development and maintenance of software projects with help of various automated software tools.

2. Upper CASE tools are used in _____ stages of SDLC?

- A. planning
- B. analysis
- C. design
- D. All of the above

[View Answer](#)

Ans : D

Explanation: Upper Case Tools : Upper CASE tools are used in planning, analysis and design stages of SDLC.

3. Which of the following tool is helpful in all the stages of SDLC?

- A. Central Repository
- B. Lower Case Tools
- C. Integrated Case Tools
- D. Upper Case Tools

[View Answer](#)

Ans : C

Explanation: Integrated Case Tools : Integrated CASE tools are helpful in all the stages of SDLC, from Requirement gathering to Testing and documentation.

4. Which of the following is not a type of CASE tool?

- A. Diagram tools
- B. Process Modeling Tools
- C. Documentation Tools
- D. Testing tool

[View Answer](#)

Ans : D

Explanation: Testing tool is not a type of CASE tool.

5. In which of the following methodologies CASE tool mainly used?

- A. RAD
- B. OO Approach
- C. JAD
- D. All of the above

[View Answer](#)

Ans : D

Explanation: CASE tools are used in various stages of the Software Development Life Cycle.

6. Which tool is used to assist in designing web pages?

- A. Web Development Tools
- B. Prototyping Tools
- C. Programming Tools
- D. All of the above

[View Answer](#)

Ans : A

Explanation: Web Development Tools : These tools assist in designing web pages with all allied elements like forms, text, script, graphic and so on.

7. Which of the following is not a drawback of CASE tool?

- A. Perform testing easily
- B. Technical limitation
- C. Very difficult for technology transfer
- D. Difficult to select a case tool.

[View Answer](#)

Ans : A

Explanation: Perform testing easily is not a drawback of CASE tool.

8. Where CASE tool is used?

- A. Project management
- B. Schema generation
- C. Data modeling
- D. All of the above

[View Answer](#)

Ans : D

Explanation: Various Uses Of Case tools: Project management, Creation of data dictionary, Design user interface, Code generation, Schema generation, Software testing, Project scheduling, Cost and benefit analysis, Data modeling, Analysis and design for documentation.

9. What kind of support is provided by the Code Generation CASE tool?

- A. Cross referencing queries and requirements tracing
- B. Transformation of design records into application software
- C. Compiling, interpreting or applying interactive debugging code
- D. All of the above

[View Answer](#)

Ans : B

Explanation: Code Generation tool aids in transformation of design records into prototypes or application software compatible with a given software development language.

10. What stores all changes and info related to the project from development through maintenance in CASE tools?

- A. Database
- B. Repository
- C. Register
- D. Files

[View Answer](#)

Ans : B

1. Which of the following model in system modelling depicts the dynamic behaviour of the system?

- A. Behavioral Model
- B. Context Model
- C. Structural Model
- D. Object Model

[View Answer](#)

Ans : A

Explanation: Behavioral models are used to describe the dynamic behavior of an executing system. This can be modeled from the perspective of the data processed by the system or by the events that stimulate responses from a system.

2. Which of the following model in system modelling depicts the static nature of the system ?

- A. Structural Model
- B. External Model
- C. Behavioral Model
- D. Data Model

[View Answer](#)

Ans : A

Explanation: Structural models show the organization and architecture of a system. These are used to define the static structure of classes in a system and their associations.

3. Which of the following perspective in system modelling shows the system or data architecture?

- A. Data perspective
- B. External perspective
- C. Behavioral perspective
- D. Structural perspective

[View Answer](#)

Ans : D

Explanation: Structural perspective is used to define the static structure of classes in a system and their associations.

4. The UML supports event-based modeling using _____ diagrams.

- A. Deployment
- B. Collaboration
- C. State chart
- D. All of the above

[View Answer](#)

Ans : C

Explanation: State diagrams show system states and events that cause transitions from one state to another.

5. Which of the following is true?

- A. Activity diagrams are used to model the processing of data.
- B. Model-driven engineering is just a theoretical concept.
- C. Model-driven engineering cannot be converted into a working/executable code.
- D. All of the above

[View Answer](#)

Ans : A

Explanation: Activity diagrams are used to model the processing of data is true statement.

6. Which of the following diagram is not supported by UML considering Data-driven modeling ?

- A. Activity
- B. Data Flow Diagram (DFD)
- C. State Chart
- D. Component

[View Answer](#)

Ans : B

Explanation: DFDs focus on system functions and do not recognize system objects.

7. Which level of Entity Relationship Diagram (ERD) models all entities and relationships ?

- A. 1
- B. 2

- C. 3
- D. 4

[View Answer](#)

Ans : B

Explanation: Level 1 ERD models all data objects (entities) and their "connections" to one another while Level 3 ERD models all entities, relationships, and the attributes that provide further depth.

8. Which of the following is false?

- A. A data object can encapsulates processes and operation as well.
- B. One creates Behavioral models of a system when you are discussing and designing the system architecture.
- C. Both A and B
- D. None of the above

[View Answer](#)

Ans : C

Explanation: Both option A And B are False statement.

9. Which diagram of UML represent Interaction modeling?

- A. Use Case
- B. Sequence
- C. State Chart
- D. Both A and B

[View Answer](#)

Ans : D

Explanation: Use case modeling is mostly used to model interactions between a system and external actors. Sequence diagrams are used to model interactions between system components, although external agents may also be included.

10. Which of the following statement is incorrect regarding the Class-responsibility-collaborator (CRC) modeling ?

- A. All use-case scenarios (and corresponding use-case diagrams) are organized into categories in CRC modelling
- B. The review leader reads the use-case deliberately
- C. Only developers in the review (of the CRC model) are given a subset of the CRC model index cards
- D. All of the above

[View Answer](#)

Ans : C

1. Defects removal efficiency (DRE)depends on:

- A. E : errors found before software delivery
- B. D : defects found after delivery to user
- C. Both A and B
- D. None of the above

[View Answer](#)

Ans : C

Explanation: Defects removal efficiency (DRE)depends on: Both E and D. $DRE = E / (E + d)$.

2. Which of the following is an indirect measure of product?

- A. Quality
- B. Complexity
- C. Reliability
- D. All of the above

[View Answer](#)

Ans : D

Explanation: All of the above options are indirect measures of a product.

3. Which of the following is not a direct measure of SE process?

- A. Efficiency
- B. Cost
- C. Effort Applied
- D. All of the above

[View Answer](#)

Ans : A

Explanation: Efficiency is an indirect measure.

4. Which of the following is false?

- A. The user has no control over the contents of a static web page.
- B. The static content objects are dependent on the actions of the user.
- C. It is expected to have less number of connections for a good web application.
- D. Both A and B

[View Answer](#)

Ans : B

Explanation: Dynamic Objects are user dependent so The static content objects are dependent on the actions of the useris false statement.

5. Function Point Computation is given by the formula

- A. $FP = [\text{count total} * 0.65] + 0.01 * \sum(F_i)$
- B. $FP = \text{count total} * [0.65 + 0.01 * \sum(F_i)]$
- C. $FP = \text{count total} * [0.65 + 0.01] * \sum(F_i)$
- D. $FP = [\text{count total} * 0.65 + 0.01] * \sum(F_i)$

[View Answer](#)

Ans : B

Explanation: Option b is the correct formula for Function Point Computation.

6. SMI stands for?

- A. Software Mature Indicator
- B. Software Mature Index
- C. Software Maturity Index
- D. Software Maturity Indicator

[View Answer](#)

Ans : C

Explanation: SMI stands for Software Maturity Index

7. Statement and branch coverage metrics are part of

- A. Analysis Model
- B. Source Code
- C. Design Model
- D. Testing

[View Answer](#)

Ans : D

Explanation: These metrics lead to the design of test cases that provide program coverage.

8. Size and Complexity are a part of

- A. Product Metrics
- B. Process Metrics
- C. Project Metrics
- D. None of the above

[View Answer](#)

Ans : A

Explanation: Product Metrics describe the characteristics of product.

9. Number of errors found per person hours expended is an example of a

- A. measurement
- B. measure
- C. metric
- D. None of the above

[View Answer](#)

Ans : C

Explanation: Metric is a quantitative measure of the degree to which a system, component, or process possesses a given attribute.

10. The arc-to-node ratio is given as $r = a/n$. What does "a" represent in the ratio?

- A. maximum number of nodes at any level
- B. longest path from the root to a leaf
- C. number of modules
- D. lines of control

[View Answer](#)

Ans : D

1. “Software engineers shall -

- act consistently with the public interest.”
- act in a manner that is in the best interests of his expertise and favour.”
- ensure that their products only meet the SRS.” d) all of the mentioned
- all of the mentioned

2. “Software engineers should not use their technical skills to misuse other people’s computers.” Here the term misuse refers to:

- Unauthorized modification of computer material
- Unauthorized access to computer material
- Dissemination of viruses or other malware
- All of the above

What is a Software ?

- Software is documentation and configuration of data
- Software is set of programs
- Software is set of programs, documentation & configuration of data
- None of the mentioned

Which of these software engineering activities are not a part of software processes ?

- Software development
- Software dependence
- Software validation
- Software specification

The fundamental notions of software engineering does not account for ?

- Software Security
- Software reuse
- Software processes
- Software Validation

Which one of the following models is not suitable for accommodating any change?

- Prototyping Model
- RAD Model
- Build & Fix Model
- Waterfall Model

SDLC stands for

- System Development Life cycle
- Software Design Life Cycle
- Software Development Life Cycle
- System Design Life Cycle

The spiral model was originally proposed by -

- Barry Boehm
- Pressman
- Royce
- Pressman

If you were to create client/server applications, which model would you go for?

- Concurrent Model
- Spiral Model

- WINWIN Spiral Model
- Incremental Model

Infrastructure software are covered under ?

- Customised Products
- Generic and Customised Products
- **Generic Products**
- None of the above

Build and Fix model has?

- 1 Phases
- **2 Phases**
- 3 Phases
- 4 Phases

White box testing, a software testing technique is sometimes called ?

- Graph Testing
- Basic path
- **Glass box testing**
- Dataflow

Structured programming codes includes ?

- alteration & iteration
- multiple exit from loops
- sequencing
- **only 1 and 3**

The document listing all procedures and regulations that generally govern an organization is the ?

- **Organizing manual**
- Personal poling bank
- Administration policy manual
- Procedure log

Which one of the following is NOT desired in a good Software Requirement Specifications (SRS) document?

- Non-Functional Requirements
- Goals of Implementation
- Functional Requirements
- Algorithms for Software Implementation

COCOMO stands for _____.

- constructive cost Model
- common control Model
- composition cost Model
- consumed cost Model

What is the most common measure for correctness?

- Errors per KLOC
- Defects per KLOC
- \$ per KLOC
- Pages of documentation per KLOC

Line of code(LOC) of the product comes under which type of measures?

- Direct measures
- Coding
- Indirect measures
- None of the above

How many numbers of maturity levels in CMM are available?

- 6
- 5
- 4
- 3

Which of the following is the task of project indicators:

- track potential risk
- help in assessment of status of ongoing project.
- both 1 and 2
- none of the mentioned

Which of the following is not a direct measure of SE process?

- Effort Applied
- Efficiency
- Effort Applied
- All of the mentioned

In size oriented metrics, metrics are developed based on the _____

- number of user inputs
- number of lines of code
- number of Functions
- amount of memory usage

Usability can be measured in terms of:

- Time required to become moderately efficient in system usage
- Net increase in productivity
- Intellectual skill to learn the system
- All of the mentioned

- 1. Component level design is concerned with
 - a. Flow oriented analysis
 - b. Class based analysis
 - c. Both of the above
 - d. None of the above

2. RAD stands for _____.

- a. Rapid and Design
 - b. Rapid Aided Development
 - c. Rapid Application Development
 - d. Rapid Application Design
-

3. Basis path testing falls under

- a. system testing
 - b. white box testing
 - c. black box testing
 - d. unit testing
-

4. _____ is an “umbrella” activity that is applied throughout the software engineering process.

- a. Debugging

- b. Testing
 - c. Designing
 - d. Software quality assurance**
-

- 5. The factors that determine the quality of a software system are
 - a. correctness, reliability
 - b. efficiency, usability, maintainability
 - c. testability, portability, accuracy, error tolerances, expandability, access control, audit
 - d. All of the above**
-

- 6. _____ establishes information about when, why and by whom changes are made in a software.
 - a. Software Configuration Management
 - b. Change Control
 - c. Version Control
 - d. An Audit Trail**
-

- 7. The relationship of data elements in a module is called
 - a. Coupling
 - b. Modularity
 - c. Cohesion**
 - d. Granularity
-

- 8. Software Configuration Management is the discipline for systematically controlling
 - a. the changes due to the evolution of work products as the project proceeds
 - b. the changes due to defects (bugs) being found and then fixed
 - c. the changes due to requirement changes
 - d. all of the above**
-

- 9. Which one of the following is not a step of requirement engineering?
 - a. Requirement elicitation
 - b. Requirement analysis
 - c. Requirement design**
 - d. Requirement documentation
-

- 10. Testing of software with actual data and in actual environment is called
 - a. Alpha testing
 - b. Beta testing**
 - c. Regression testing

- d. None of the above
11. Function points can be calculated by
- UFP * CAF
 - UFP * FAC
 - UFP * Cost
 - UFP * Productivity
-
- Match the following
- data coupling i. module A and module B have shared data
 - stamp coupling ii. dependency between modules is based on the fact they communicate by only passing of data
 - common coupling iii. when complete structure is passed from one module to another
 - content coupling iv. when the control is passed from one module to the middle of another
- codes:
- a b c d
- iii ii i iv
 - ii iii i iv
 - ii iii iv i
 - iii ii iv i
-
- A process which defines a series of tasks that have the following four primary objectives is known as
- to identify all items that collectively define the software configuration.
 2. to manage changes to one or more of these items.
 3. to facilitate the construction of different versions of an application.
 4. to ensure that software quality IS maintained as the configuration evolves over time
- Software Quality management process
 - Software Configuration Management Process
 - Software Version Management Process
 - Software Change management Process

-
14. One weakness of boundary value analysis and equivalence partitioning is
- they are not effective
 - they do not explore combinations of input circumstances**
 - they explore combinations of input circumstances
 - None of the above
-
15. Which one of the following is not a software myth?
- Once we write the program and get it to work, our job is done
 - Project requirements continually change, but change can be easily accommodated because software is flexible
 - If we get behind schedule, we can add more programmers and catch up
 - If an organization does not understand how to control software projects internally, it will invariably struggle when it outsources software projects**

Match the following with respect to relationship between objects and classes :

- a. state diagram i. useful for both abstract modeling and for designing actual programme
- b. object diagram ii. describes object classes
- 16.
- c. class diagram iii. useful for documenting test cases
- d. instance diagram iv. describing the behavior of a single class of objects

codes:

a b c d

- a. iv i ii iii
- b. ii iii iv i
- c. **iii iv ii i**
- d. ii iv i iii

Match the following style rules for re-usability

- a. Keep methods coherent i. Write a method to get the last element of a list
- 17.
- b. Keep methods small ii. Maintain structure possible parallel when
- c. Keep methods consistent iii. Breaking a method into smaller parts

d. Provide uniform coverage iv performs a single function or a group of closely related functions.

codes:

a b c d

- a. iv iii ii i
 - b. ii i iv iii
 - c. iii iv ii i
 - d. ii iii iv i
-

The software _____ of a program or a computing system is the structure or structures of 18. the system, which comprise software components, the externally visible properties of those components, and the relationships among them.

- a. Design
 - b. **Architecture**
 - c. Process
 - d. Requirement
-

Requirement Development, Organizational Process Focus, Organizational Training, Risk 19. Management and Integrated Supplier Management are process areas required to achieve maturity level

- a. Performed
 - b. Managed
 - c. **Defined**
 - d. Optimized
-

20. Which one of the following set of attributes should not be encompassed by effective software metrics?

- a. Simple and computable
 - b. Consistent and objective
 - c. Consistent in the use of units and dimensions
 - d. **Programming language dependent**
-

21. _____ are applied throughout the software process.

- a. Framework activities
 - b. **Umbrella activities**
 - c. Planning activities
 - d. Construction activities
-

22. What is true about UML stereotypes ?

- a. Stereotype is used for extending the UML language
 - b. Stereotyped class must be abstract
 - c. The stereotype indicates that the UML element cannot be changed
 - d. UML profiles can be stereotyped for backward compatibility
-

23. Which one of the following is not a source code metric?

- a. Halstead metric
 - b. Function point metric
 - c. Complexity metric
 - d. Length metric
-

To compute function points (FP), the following relationship is used $FP = \text{Count} - \text{total } x$

24. $(0.65 + 0.01 x \sum(F_i))$ where F_i ($i = 1$ to n) are value adjustment factors (VAF) based on n questions. The value of n is

- a. 12
 - b. 14
 - c. 16
 - d. 18
-

Assume that the software team defines a project risk with 80% probability of occurrence of risk in the following manner:

25. Only 70 percent of the software components scheduled for reuse will be integrated into the application arid the remaining functionality will have to be custom developed: If 60 reusable components were planned with average component size as ' 100 LOC and software engineering cost for each LOC as \$ 14, then the risk exposure would be

- a. \$ 25,200
 - b. \$ 20,160
 - c. \$ 17,640
 - d. \$ 15,120
-

26. Maximum possible value of reliability is

- a. 100
 - b. 10
 - c. 1
 - d. 0
-

27. 'FAN IN' of a component A is defined as

- a. Count of the number of components that can call, or pass control, to a component A

- b. Number of components related to component A
 - c. Number of components dependent on component A
 - d. None of the above
-

28. Temporal cohesion means

- a. **Coincidental cohesion**
 - b. Cohesion between temporary variables
 - c. Cohesion between local variables
 - d. Cohesion with respect to time
-

Match the following:

- | | |
|--------------------|---|
| a. Good quality | i. Program does not fail for a specified time in a given environment' |
| b. Correctness | ii. Meets the functional requirements |
| 29. c. Predictable | iii. Meets both functional and non-functional requirements , |
| d. Reliable | iv. Process is under statistical control |
-

Codes

a b c d

- a. iii ii iv i
 - b. ii iii iv i
 - c. i ii iv iii
 - d. i ii iii iv
-

Match the following

List - I

List - II

- (a) Size-oriented metric (i) uses number of external interfaces as one of the measurement parameters
30. (b) Function-oriented metrics (ii) originally designed to be applied to business information system
- (c) Extended Function Point Metrics (iii) derived by normalizing quality and/ or productivity measures by considering the size of the software.

(d) Function Point (iv) uses algorithm characteristics as of the measurement parameter

code:

- (a) (b) (c) (d)
- a. (iii) (iv) (i) (ii)
- b. (ii) (i) (iv) (iii)
- c. (iv) (ii) (iii) (i)
- d. (iii) (i) (iv) (ii)

31. In which testing strategy requirements established during requirements analysis are validated against developed software?

- a. Validation testing
 - b. Integration testing
 - c. Regression testing
 - d. System testing
-

32. Which process model is also called as classic life cycle model?

- a. Waterfall model
 - b. RAD model
 - c. Prototyping model
 - d. Incremental model
-

33. Cohesion is an extension of :

- a. Abstraction concept
 - b. Refinement concept
 - c. Information hiding concept
 - d. Modularity
-

34. Which one from the following is highly associated activity of project planning?

- a. Keep track of the project
 - b. Compare actual and planned progress and costs
 - c. Identify the activities, milestones and deliverables produced by a project
 - d. Both b and c
-

35. Module design is used to maximize cohesion and minimize coupling. Which of the following is the key to implement this rule?

- a. Inheritance
- b. Polymorphism

c. Encapsulation

d. Abstraction

36. Verification :

- a. refers to the set of activities that ensure that software correctly implements a specific function
 - b. gives answer to the question - Are we building the product right ?
 - c. requires execution of software
 - d. both a and b**
-

37. Which design metric is used to measure the compactness of the program in terms of lines of code?

- a. Consistency
 - b. Conciseness**
 - c. Efficiency
 - d. Accuracy
-

38. Requirements prioritization and negotiation belongs to :

- a. Requirements validation
 - b. Requirements elicitation**
 - c. Feasibility study
 - d. Requirements reviews
-

39. Adaptive maintenance is a maintenance which _____.

- a. correct errors that were not discovered till testing phase
 - b. is carried out to port the existing software to a new environment**
 - c. improves the system performance
 - d. both b and c
-

40. A Design concept Refinement is a :

- a. Top-down approach
 - b. Complementary of Abstraction concept
 - c. Process of elaboration
 - d. All of the above**
-

41. A software design is highly modular if :

- a. cohesion is functional and coupling is data type**

- b. cohesion is coincidental and coupling is data type
 - c. cohesion is sequential and coupling is content type
 - d. cohesion is functional and coupling is stamp type
-

Match the following for methods of MIS development:

List – I List – II

- (a) Joint Application Design (JAD) (i) Delivers functionality in rapid iteration measured in weeks and needs frequent communication, development, testing and delivery
- (b) Computer Aided Software Engg (ii) Reusable applications generally with one specific function. It is closely linked with idea of web services and service oriented architecture.
- (c) Agile development (iii) Tools to automate many tasks of SDLC
- (d) Component based technology (iv) A group based tool for collecting user requirements and creating system design. Mostly used in analysis and design stages of SDLC

code:

a b c d

- a. (i) (iii) (ii) (iv)
 - b. (iv) (iii) (i) (ii)**
 - c. (iii) (iv) (i) (ii)
 - d. (iii) (i) (iv) (ii)
-

43. Software testing is

- a. the process of establishing that errors are not present
 - b. the process of establishing confidence that a program does what it is supposed to do
 - c. the process of executing a program to show that it is working as per specifications
 - d. the process of executing a program with the intent of finding errors**
-

Assume that a program will experience 200 failures in infinite time. It has now experienced 44. 100 failures. The initial failure intensity was 20 failures/CPU hr. Then the current failure intensity will be

- a. 5 failures/CPU hr
 - b. 10 failures/CPU hr**
 - c. 20 failures/CPU hr
 - d. 40 failures/CPU hr
-

45. Consider a project with the following functional units:

Number of user inputs = 50

Number of user outputs = 40

Number of user inquiries = 35

Number of user files = 06

Number of external interfaces = 04

Assuming all complexity adjustment factors and weighing factors as average, the function points for the project will be

- a. 135
 - b. 722
 - c. 675
 - d. 672
-

Match the following:

List-I

List-II

- | | |
|-------------------|---|
| a. Correctness | i. The extent to which a software tolerates the unexpected problems |
| b. Accuracy | ii. The extent to which a software meets its specifications |
| 46. c. Robustness | iii. The extent to which a software has specified functions |
| d. feof() | iv. Meeting specifications with precision |

Codes:

a b c d

- a. ii iv i iii
 - b. i ii iii iv
 - c. ii i iv iii
 - d. iv ii i iii
-

47. Which one of the following is not a definition of error ?

- a. It refers to the discrepancy between a computed, observed or measured value and the true, specified or theoretically correct value
 - b. It refers to the actual output of software and the correct output
 - c. It refers to a condition that causes a system to fail
 - d. It refers to human action that results in software containing a defect or fault
-

48. Which one of the following is not a key process area in CMM level 5 ?

- a. Defect prevention
- b. Process change management
- c. Software product engineering

d. Technology change management

If S_1 is total number of modules defined in the program architecture, S_3 is the number of
49. modules whose correct function depends on prior processing then the number of modules
not dependent on prior processing is:

- a. $1 + S_3/S_1$
 - b. **$1 - S_3/S_1$**
 - c. $1 + S_1/S_3$
 - d. $1 - S_1/S_3$
-

50. The model is preferred for software development when the requirements are not clear.

- a. Rapid Application Development
- b. Rational Unified Process
- c. **Evolutionary Model**
- d. Waterfall Model

51. Which of the following is not included in waterfall model ?

- a. Requirement analysis
 - b. **Risk analysis**
 - c. Design
 - d. Coding
-

52. The extent to which a software tolerates the unexpected problems, is termed as:

- a. Accuracy
 - b. Reliability
 - c. Correctness
 - d. **Robustness**
-

53. Software Engineering is an engineering discipline that is concerned with:

- a. how computer systems work
 - b. theories and methods that underlie computers and software systems
 - c. **all aspects of software production**
 - d. all aspects of computer-based systems development, including hardware, software and process engineering
-

54. Which of the following is not one of three software product aspects addressed by McCall's software quality factors?

- a. Ability to undergo change
- b. Adaptability to new environments

- c. Operational characteristics
 - d. Production costs and scheduling
-

Which of the following statement(s) is/are true with respect to software architecture?

- S1: Coupling is a measure of how well the things grouped together in a module belong together logically.
- S2: Cohesion is a measure of the degree of interaction between software modules.
- S3: If coupling is low and cohesion is high then it is easier to change one module without affecting others.
- a. Only S1 and S2
 - b. Only S3
 - c. All of S1, S2 and S3
 - d. Only S1
-

56. The Prototyping model of software development is:

- a. a reasonable approach when requirements are well-defined
 - b. a useful approach when a customer cannot define requirements clearly
 - c. the best approach to use for projects with large development teams
 - d. a risky model that rarely produces a meaningful product
-

57. A software design pattern used to enhance the functionality of an object at run-time is:

- a. Adapter
 - b. Decorator
 - c. Delegation
 - d. Proxy
-

Which of the following statement(s) is/are TRUE with regard to software testing?

58. I. Regression testing technique ensures that the software product runs correctly after the changes during maintenance.
II. Equivalence partitioning is a white-box testing technique that divides the input domain of a program into classes of data from which test cases can be derived.
- a. only I
 - b. only II
 - c. both I and II
 - d. neither I nor II
-

59. Which of the following are facts about a top-down software testing approach?

- I. Top-down testing typically requires the tester to build method stubs.
 - II. Top-down testing typically requires the tester to build test drivers.

- a. only I
 - b. Only II
 - c. Both I and II
 - d. Neither I nor II

Match the terms related to Software Configuration Management (SCM) in List-I with the descriptions in List-II.

| List-1 | List-II |
|--|---|
| I. Version | A. An instance of a system that is distributed to customers. |
| II. Release | B. An instance of a system which is functionally identical to other instances, but designed for different hardware/software configurations. |
| 60. is functionally identical to other instances, but designed for different hardware/software configurations. | |
| III. Variant | C. An instance of a system that differs, in some way, from other instances. |

Codes:

I II III

- a. B C A
 - b. C A B
 - c. C B A
 - d. B A C

A software project was estimated at 352 Function Points (FP). A four person team will be assigned to this project consisting of an architect, two programmers, and a tester. The salary of the architect is Rs.80,000 per month, the programmer Rs.60,000 per month and the tester Rs.50,000 per month. The average productivity for the team is 8 FP per person month. Which of the following represents the projected cost of the project?

- a. Rs.28,16,000
 - b. Rs.20,90,000
 - c. Rs.26,95,000
 - d. **Rs.27,50,000**

Complete each of the following sentences in List-I on the left hand side by filling in the word or phrase from the List-II on the right hand side that best completes the sentence:

- | 62. | List-I | List-II |
|-----|--|---------|
| | I. Determining whether you have built the right system | |

is called

A. Software testing

II. Determining whether you have built the system right

B. Software verification

III. is the process of demonstrating the existence of defects or providing confidence that they do not appear to be present.

C. Software debugging

IV. is the process of discovering the cause of a defect and fixing it.

D. Software validation

Codes:

I II III IV

- a. B D A C
 - b. B D C A
 - c. D B C A
 - d. D B A C

A software company needs to develop a project that is estimated as 1000 function points and is planning to use JAVA as the programming language whose approximate lines of code per function point is accepted as 50. Considering $a=1.4$ as multiplicative factor, $b=1.0$ as exponentiation factor for the basic COCOMO effort equation and $c=3.0$ as multiplicative factor, $d=0.33$ as exponentiation factor for the basic COCOMO duration equation, approximately how long does the project take to complete?

- a. 11.2 months
 - b. **12.2 months**
 - c. 13.2 months
 - d. 10.2 months

Which of the following is used to determine the specificity of requirements ?

Where n_1 is the number of requirements for which all reviewers have identical interpretations, n_2 is number of requirements in a specification.

- a. A
 - b. B
 - c. C
 - d. D

65. The major shortcoming of waterfall model is
- the difficulty in accommodating changes after requirement analysis.
 - the difficult in accommodating changes after feasibility analysis.
 - the system testing.
 - the maintenance of system.
-

66. The quick design of a software that is visible to end users leads to
- iterative model
 - prototype model
 - spiral model
 - waterfall model
-

67. For a program of k variables, boundary value analysis yields test cases.
- $4k - 1$
 - $4k$
 - $4k + 1$
 - $2k - 1$
-

68. The extent to which a software performs its intended functions without failures, is termed as
- Robustness
 - Correctness
 - Reliability
 - Accuracy
-

An Operating System (OS) crashes on the average once in 30 days, that is, the Mean Time Between Failures (MTBF) = 30 days. When this happens, it takes 10 minutes to recover the OS, that is, the Mean Time To Repair (MTTR) = 10 minutes. The availability of the OS with these reliability figures is approximately :

- 96.97%
 - 97.97%
 - 99.009%
 - 99.97%
-

Match each software lifecycle model in List – I to its description in List – II:

- | List – I | List – II |
|------------------------------|--|
| 70. I. Code-and-Fix | a. Assess risks at each step; do most critical action first. |
| II. Evolutionary prototyping | b. Build an initial small requirement specifications, code it, then “evolve” the specifications and code |

as needed.

- | | |
|---------------------|---|
| III. Spiral | c. Build initial requirement specification for several releases, then design-and-code in sequence |
| IV. Staged Delivery | d. Standard phases (requirements, design, code, test) in order |
| V. Waterfall | e. Write some code, debug it, repeat (i.e. ad-hoc) |

Codes :

I II III IV V

- a. e b a c d
- b. e c a b d
- c. d a b c e
- d. c e a b d

Match each software term in List – I to its description in List – II:

List – I

- I. Wizards
- II. Templates
- single command
- 71. III. Macro
- commonly used tools
- IV. Integrated Software
- V. Software Suite

List – II

- a. Forms that provide structure for a document
- b. A series of commands grouped into a
- c. A single program that incorporates most
- d. Step-by-step guides in application software
- e. Bundled group of software programs

Codes :

I II III IV V

- a. d a b c e
- b. b a d c e
- c. d e b a c
- d. e c b a d

72. The ISO quality assurance standard that applies to software Engineering is

- a. ISO 9000 : 2004
 - b. ISO 9001 : 2000
 - c. ISO 9002 : 2001
 - d. ISO 9003 : 2004
-

73. Which of the following are external qualities of a software product ?

- a. Maintainability, reusability, portability, efficiency, correctness
- b. Correctness, reliability, robustness, efficiency, usability

-
- c. Portability, interoperability, maintainability, reusability
 - d. Robustness, efficiency, reliability, maintainability, reusability
-

Which of the following is/are CORRECT statement(s) about version and release ?

- I. A version is an instance of a system, which is functionally identical but nonfunctionally distinct from other instances of a system.
 - II. A version is an instance of a system, which is functionally distinct in some way from other system instances.
 - III. A release is an instance of a system, which is distributed to users outside of the development team.
 - IV. A release is an instance of a system, which is functionally identical but nonfunctionally distinct from other instances of a system.
- a. I and III
 - b. II and IV
 - c. I and IV
 - d. II and III**
-

- An experimental file server is up 75% of the time and down for 25% of the time due to bugs. How many times does this file server have to be replicated to give an availability of at least 99% ?
-

- a. 2
 - b. 4**
 - c. 8
 - d. 16
-

- A server crashes on the average once in 30 days, that is, the Mean Time Between Failures (MTBF) is 30 days. When this happens, it takes 12 hours to reboot it, that is, the Mean Time to Repair (MTTR) is 12 hours. The availability of server with these reliability data values is approximately:
-

- a. 96.3%
 - b. 97.3%
 - c. 98.3%**
 - d. 99.3%
-

Match the software maintenance activities in List-I to its meaning in List-II.

- | List-I | List-II |
|-------------------|---|
| 77. I. Corrective | (a) Concerned with performing activities to reduce the software complexity thereby improving program understandability and increasing software maintainability. |
-

- | | |
|--|--|
| II. Adaptive software is in use. | (b) Concerned with fixing errors that are observed when the |
| III. Perfective | (c) Concerned with the change in the software that takes place to make |
| | the software adaptable to new environment (both hardware and software). |
| IV. Preventive | (d) Concerned with the change in the software that takes place to make the |
| | software adaptable to changing user requirements. |

Codes:

- | | I | II | III | IV |
|----|------------|------------|------------|------------|
| a. | (b) | (d) | (c) | (a) |
| b. | (b) | (c) | (d) | (a) |
| c. | (c) | (b) | (d) | (a) |
| d. | (a) | (d) | (b) | (c) |
-

Match each application/software design concept in List-I to its definition in List-II.

- | List-I | List-II |
|------------------|---|
| I. Coupling | (a) Easy to visually inspect the design of the software and understand its purpose. |
| 78. II. Cohesion | (b) Easy to add functionality to a software without having to redesign it. |
| III. Scalable | (c) Focus of a code upon a single goal. |
| IV. Readable | (d) Reliance of a code module upon other code modules. |

Codes:

- | | I | II | III | IV |
|----|------------|------------|------------|------------|
| a. | (b) | (a) | (d) | (c) |
| b. | (c) | (d) | (a) | (b) |
| c. | (d) | (c) | (b) | (a) |
| d. | (d) | (a) | (c) | (b) |
-

79. Software safety is quality assurance activity that focuses on hazards that
- affect the reliability of a software component
 - may cause an entire system to fail**
 - may result from user input errors
 - prevent profitable marketing of the final product
-

80. Which of the following sets represent five stages defined by Capability Maturity Model (CMM) in increasing order of maturity?
- a. Initial, Defined, Repeatable, Managed, Optimized
 - b. Initial, Repeatable, Defined, Managed, Optimized**
 - c. Initial, Defined, Managed, Repeatable, Optimized
 - d. Initial, Repeatable, Managed, Defined, Optimized
81. The number of function points of a proposed system is calculated as 500. Suppose that the system is planned to be developed in Java and the LOC/FP ratio of Java is 50. Estimate the effort (E) required to complete the project using the effort formula of basic COCOMO given below:
- $$E = a(KLOC)b$$
- Assume that the values of a and b are 2.5 and 1.0 respectively.
- a. 25 person months
 - b. 75 person months
 - c. 62.5 person months**
 - d. 72.5 person months
-
82. In software testing, how the error, fault and failure are related to each other?
- a. Error leads to failure but fault is not related to error and failure
 - b. Fault leads to failure but error is not related to fault and failure
 - c. Error leads to fault and fault leads to failure**
 - d. Fault leads to error and error leads to failure
-
83. Which of the following is not a software process model?
- a. Prototyping
 - b. Iterative
 - c. Timeboxing
 - d. Glassboxing**
-
84. Which one of the following non-functional quality attributes is not highly affected by the architecture of the software ?
- a. Performance
 - b. Reliability
 - c. Usability**
 - d. Portability
-
85. In CRC based design, a CRC Team consists of :

- (a) one or two users representatives
 - (b) several programmers
 - (c) project co-ordinators
 - (d) one or two system analysts
- a. (a) and (c)
 - b. (a), (b), (c) and (d)
 - c. (a), (c) and (d)
 - d. (a), (b) and (d)
-

86. Which one of the following statements is incorrect ?

- a. Pareto analysis is a statistical method used for analyzing causes, and is one of the primary tools for quality management.
 - b. Reliability of a software specifies the probability of failure-free operation of that software for a given time duration.
 - c. The reliability of a system can also be specified as the Mean Time To Failure (MTTF).
 - d. In white-box testing, the test cases are decided from the specifications or the requirements.
-

87. Which one of the following statements, related to the requirements phase in Software Engineering, is incorrect ?

- a. “Requirement validation” is one of the activities in the requirements phase.
 - b. “Prototyping” is one of the methods for requirement analysis.
 - c. “Modelling-oriented approach” is one of the methods for specifying the functional specifications.
 - d. “Function points” is one of the most commonly used size metric for requirements.
-

88. KPA in CMM stands for

- a. Key Process Area
 - b. Key Product Area
 - c. Key Principal Area
 - d. Key Performance Area
-

89. Which one of the following is not a risk management technique for managing the risk due to unrealistic schedules and budgets?

- a. Detailed multi source cost and schedule estimation
 - b. Design Cost
 - c. Incremental development
 - d. Information hiding
-

..... of a system is the structure or structures of the system which comprise software elements, the externally visible properties of these elements and the relationship amongst them.

- a. Software construction
- b. Software evolution
- c. **Software architecture**
- d. Software reuse

90. In function point analysis, the number of complexity adjustment factors is

- a. 10
 - b. 12
 - c. **14**
 - d. 20
-

92. Regression testing is primarily related to

- a. Functional testing
 - b. Development testing
 - c. Data flow testing
 - d. **Maintenance testing**
-

93. In which one of the following, continuous process improvement is done?

- a. ISO9001
 - b. RMMM
 - c. **CMM**
 - d. None of the above
-

The of a program or computing system is the structure or structures of the system, which comprise software components, the externally visible properties of these components, and the relationship among them.

- a. E-R diagram
 - b. Data flow diagram
 - c. **Software architecture**
 - d. Software design
-

95. Working software is not available until late in the process in

- a. **Waterfall model**
 - b. Prototyping model
 - c. Incremental model
 - d. Evolutionary Development model
-

96. Equivalence partitioning is a testing method that divides the input domain of a program into classes of data from which test cases can be derived.
- White box
 - Black box**
 - Regression
 - Smoke
-

Consider the following characteristics:

- (i) Correct and unambiguous
(ii) Complete and consistent
97. (iii) Ranked for importance and/or stability and verifiable
(iv) Modifiable and Traceable

Which of the following is true for a good SRS?

- (i), (ii) and (iii)
 - (i), (iii) and (iv)
 - (ii), (iii) and (iv)
 - (i), (ii), (iii) and (iv)**
-

- Equivalence class partitioning approach is used to divide the input domain into a set of equivalence classes, so that if a program works correctly for a value, then it will work correctly for all the other values in that class. This is used

- to partition the program in the form of classes
 - to reduce the number of test cases required**
 - for designing test cases in white box testing
 - all of the above
-

- The failure intensity for a basic model as a function of failures experienced is given as $\lambda(\mu) = \lambda_0[1 - (\mu)/(V_0)]$ where λ_0 is the initial failure intensity at the start of the execution, μ is the average or expected number of failures at a given point in time, the quantity V_0 is the total number of failures that would occur in infinite time.

Assume that a program will experience 100 failures in infinite time, the initial failure intensity was 10 failures/CPU hr. Then the decrement of failures intensity per failure will be

- 10 per CPU hr.
 - 0.1 per CPU hr.
 - 0.1 per CPU hr.**
 - 90 per CPU hr.
-

100. Improving processing efficiency or performance or restructuring of software to improve changeability is known as

- a. Corrective maintenance
 - b. **Perfective maintenance**
 - c. Adaptive maintenance
 - d. Code maintenance
101. Inmodules A and B make use of a common data type, but perhaps perform different operations on it.
- a. Data coupling
 - b. **Stamp coupling**
 - c. Control coupling
 - d. Content coupling
-

102. Sixty (60) reusable components were available for an application. If only 70% of these components can be used, rest 30% would have to be developed from scratch. If average component is 100 LOC and cost of each LOC is Rs 14, what will be the risk exposure if risk probability is 80% ?
- a. Rs 25,200
 - b. **Rs 20,160**
 - c. Rs 25,160
 - d. Rs 20,400
-

103. COCOMO stands for
- a. COMposite COst MOdel
 - b. **CONstructive COst MOdel**
 - c. CONstructive COMposite MOdel
 - d. COmprehensive COnstruction MOdel
-

Match the following:

- | | |
|---------------------|--|
| a. Good quality | i. Program does not fail for a specified time in a given environment |
| b. Correctness | ii. Meets the functional requirements |
| 104. c. Predictable | iii. Meets both functional and non-functional requirements |
| d. Reliable | iv. Process is under statistical control |
-

Codes:

a b c d

- a. **iii ii iv i**
 - b. ii iii iv i
 - c. i ii iv iii
 - d. i ii iii iv
-

105. While estimating the cost of software, Lines of Code (LOC) and Function Points (FP) are used to measure which one of the following?
- Length of code
 - Size of software**
 - Functionality of software
 - None of the above
-

106. A good software design must have
- High module coupling, High module cohesion
 - High module coupling, Low module cohesion
 - Low module coupling, High module cohesion**
 - Low module coupling, Low module cohesion
-

The Software Maturity Index (SMI) is defined as

$$SMI = [Mf - (Fa + Fc + Fd)] / Mf$$

Where

107. M_f = the number of modules in the current release.
 F_a = the number of modules in the current release that have been added.
 F_c = the number of modules in the current release that have been changed.
 F_d = the number of modules in the current release that have been deleted.

The product begins to stabilize when

- SMI approaches 1**
 - SMI approaches 0
 - SMI approaches -1
 - None of the above
-

Match the following:

- | | |
|-------------------------------------|-----------------------|
| a. Watson-Felix model | i. Failure intensity |
| b. Quick-Fix model | ii. Cost estimation |
| c. Putnam resource allocation model | iii. Project planning |
| d. Logarithmic-Poisson Model | iv. Maintenance |
-

Codes:

a b c d

- ii i iv iii
- i ii iv iii
- ii i iii iv
- ii iv iii i**

109. is a process model that removes defects before they can precipitate serious hazards.

- a. Incremental model
 - b. Spiral model
 - c. Cleanroom software engineering
 - d. Agile model
-

110. Equivalence partitioning is a method that divides the input domain of a program into classes of data from which test cases can be derived.

- a. White-box testing
- b. Black-box testing
- c. Orthogonal array testing
- d. Stress testing

The following three golden rules:

111. (i) Place the user in control
(ii) Reduce the user's memory load
(iii) Make the interface consistent are for

- a. User satisfaction
 - b. Good interface design
 - c. Saving system's resources
 - d. None of these
-

112. Software safety is a activity that focuses on the identification and assessment of potential hazards that may affect software negatively and cause an entire system to fail.

- a. Risk mitigation, monitoring and management
 - b. Software quality assurance
 - c. Software cost estimation
 - d. Defect removal efficiency
-

113. Main aim of software engineering is to produce

- a. program
 - b. software
 - c. within budget
 - d. software within budget in the given schedule
-

114. Key process areas of CMM level 4 are also classified by a process which is

- a. CMM level 2
- b. CMM level 3

- c. CMM level 5
 - d. All of the above
-

115. Validation means
- a. are we building the product right
 - b. are we building the right product
 - c. verification of fields
 - d. None of the above
-

116. If a process is under statistical control, then it is
- a. Maintainable
 - b. Measurable
 - c. Predictable
 - d. Verifiable
-

117. In a function oriented design, we
- a. minimize cohesion and maximize coupling
 - b. maximize cohesion and minimize coupling
 - c. maximize cohesion and maximize coupling
 - d. minimize cohesion and minimize coupling
-

118. Which of the following metric does not depend on the programming language used ?
- a. Line of code
 - b. Function count
 - c. Member of token
 - d. All of the above
-

119. Reliability of software is directly dependent on
- a. quality of the design
 - b. number of errors present
 - c. software engineers experience
 - d. user requirement
-

120. While unit testing a module, it is found that for a set of test data, maximum 90% of the code alone were tested with a probability of success 0.9. The reliability of the module is
- a. atleast greater than 0.9
 - b. equal to 0.9
 - c. atmost 0.81
 - d. atleast 1/0.81

121. Are we building the right product ?

This statement refers to

- a. Verification
 - b. Validation**
 - c. Testing
 - d. Software quality assurance
-

122. Which diagram provides a formal graphic notation for modelling objects, classes and their relationships to one another ?

- a. Object diagram**
 - b. Class diagram
 - c. Instance diagram
 - d. Analysis diagram
-

123. The amount of uncertainty in a system of symbol is called

- a. Bandwidth
 - b. Entropy**
 - c. Loss
 - d. Quantum
-

124. For a data entry project for office staff who have never used computers before (user interface and user-friendliness are extremely important), one will use

- a. Spiral model
 - b. Component based model
 - c. Prototyping**
 - d. Waterfall model
-

125. An SRS

- a. establishes the basis for agreement between client and the supplier.
 - b. provides a reference for validation of the final product.
 - c. is a prerequisite to high quality software.
 - d. all of the above.**
-

126. Emergency fixes known as patches are result of

- a. adaptive maintenance
 - b. perfective maintenance
 - c. corrective maintenance**
 - d. none of the above
-

127. Design recovery from source code is done during

- a. reverse engineering
 - b. re-engineering
 - c. reuse
 - d. all of the above
-

128. Following is used to demonstrate that the new release of software still performs the old one did by rerunning the old tests :

- a. Functional testing
 - b. Path testing
 - c. Stress testing
 - d. Regression testing
-

129. Software risk estimation involves following two tasks :

- a. Risk magnitude and risk impact
 - b. Risk probability and risk impact
 - c. Risk maintenance and risk impact
 - d. Risk development and risk impact
-

130. Enterprise Resource Planning (ERP)

- a. has existed for over a decade.
 - b. does not integrate well with the functional areas other than operations.
 - c. is inexpensive to implement.
 - d. automate and integrates the majority of business processes.
-

131. Which of the following is false concerning Enterprise Resource Planning (ERP)?

- a. It attempts to automate and integrate the majority of business processes.
 - b. It shares common data and practices across the enterprise.
 - c. It is inexpensive to implement.
 - d. It provides and access information in a real-time environment.
-

132. Which one of the items listed below is not one of the software engineering layers ?

- a. Process
 - b. Manufacturing
 - c. Method
 - d. Tools
-

133. What is the first stage in program development ?

- a. Specification and design
- b. System Analysis

- c. Testing
 - d. None of the above
-

134. By means of a data flow diagram, the analyst can detect
- a. Task duplication
 - b. Unnecessary delays
 - c. Task overlapping
 - d. All of the above
-

135. Which of these are the 5 generic software engineering framework activities ?
- a. Communication, planning, modelling, construction, deployment
 - b. Communication, risk management, measurement, production, reviewing
 - c. Analysis, designing, programming, Debugging, maintenance
 - d. Analysis, planning, designing, programming, testing
-

136. Many causes of the software crisis can be traced to mythology based on
- a. Management Myths
 - b. Customer Myths
 - c. Practitioner Myths
 - d. All of the above
-

137. “Black” refers in the “Black-box” testing means
- a. Characters of the movie “Black”
 - b. I – O is hidden
 - c. Design is hidden
 - d. Users are hidden
-

138. In generalisation, the differences between members of an entity is
- a. maximized
 - b. minimized
 - c. both a & b
 - d. None of these
-

139. Prototyping is used to
- a. test the software as an end product
 - b. expand design details
 - c. refine and establish requirements
gathering
 - d. None of the above

140. Which one of these are not software maintenance activity?

- a. Error correction
- b. Adaptation
- c. Implementation of Enhancement
- d. Establishing scope

141. The system specification is the first deliverable in the computer system engineering process which does not include

- a. Functional Description
 - b. Cost
 - c. Schedule
 - d. Technical Analysis
-

142. The COCOMO model was introduced in the book title “Software Engineering Economics” authored by

- a. Abraham Silberschatz
 - b. Barry Boehm
 - c. C.J. Date
 - d. D.E. Knuth
-

143. The Warnier diagram enables analyst

- a. to represent information hierarchy in a compact manner
 - b. to further identify requirement
 - c. to estimate the total cost involved
 - d. None of the above
-

144. Software engineering primarily aims on

- a. reliable software
 - b. cost effective software
 - c. reliable and cost effective software
 - d. none of the above
-

145. Top-down design does not require

- a. step-wise refinement
 - b. loop invariants
 - c. flow charting
 - d. modularity
-

146. Which model is simplest model in Software Development?

- a. Waterfall model
 - b. Prototyping
 - c. Iterative
 - d. None of these
-

147. Design phase will usually be

- a. top-down
 - b. bottom-up
 - c. random
 - d. centre fringing
-

148. Software Engineering is a discipline that integrates for the development of computer software.

- a. Process
 - b. Methods
 - c. Tools
 - d. All
-

149. Any error whose cause cannot be identified anywhere within the software system is called
.....

- a. Internal error
 - b. External error
 - c. Inherent error
 - d. Logic error
-

Recorded software attributes can be used in the following endeavours :

- 150. (i) Cost and schedule estimates.
(ii) Software product reliability predictions.
(iii) Managing the development process.
(iv) No where
 - a. (i) (ii) (iv)
 - b. (ii) (iii) (iv)
 - c. (i) (ii) (iii)
 - d. (i) (ii) (iii) (iv)
- 151. Black Box testing is done
 - a. to show that s/w is operational at its interfaces i.e. input and output.
 - b. to examine internal details of code.
 - c. at client side.
 - d. none of above.

152. Capability Maturity Model is meant for:

- a. Product
 - b. **Process**
 - c. Product and Process
 - d. None of the above
-

153. In the light of software engineering software consists of:

- a. Programs
 - b. Data
 - c. Documentation
 - d. **All of the above**
-

154. Which one of the following ISO standard is used for software process?

- a. ISO 9000
 - b. ISO 9001
 - c. ISO 9003
 - d. **ISO 9000-3**
-

155. Which of the following is used for test data generation?

- a. White box
 - b. Black box
 - c. **Boundary-value analysis**
 - d. All of the above
-

156. Reverse engineering is the process which deals with:

- a. Size measurement
 - b. Cost measurement
 - c. **Design recovery**
 - d. All of the above
-

157. Software Quality Assurance(SQA) encompasses:

- a. verification
 - b. validation
 - c. **both verification and validation**
 - d. none of the above
-

158. Which level is called as “defined” in capability maturity model?

- a. level 0

- b. level 3
 - c. level 4
 - d. level 1
-

159. COCOMO model is used for:

- a. product quality estimation
 - b. product complexity estimation
 - c. product cost estimation
 - d. all of the above
-

160. Water fall model for software development is:

- a. a top down approach
- b. a bottom up approach
- c. a sequential approach
- d. a consequential approach

161. In software development, value adjustment factors include the following among others:

- a. the criticality of the performance and reusability of the code.
 - b. number of lines of code in the software.
 - c. number of technical manpower and hardware costs.
 - d. time period available and the level of user friendliness.
-

162. While designing the user interface, one should:

- a. use as many short cuts as possible.
 - b. use as many defaults as possible.
 - c. use as many visual layouts as possible.
 - d. reduce the demand on short-term memory.
-

163. In software cost estimation, base estimation is related to:

- a. cost of similar projects already completed.
 - b. cost of the base model of the present project.
 - c. cost of the project with the base minimum profit.
 - d. cost of the project under ideal situations.
-

164. In clean room software engineering:

- a. only eco-friendly hardware is used.
 - b. only hired facilities are used for development.
 - c. correctness of the code is verified before testing.
 - d. implementation is done only after ensuring correctness.
-

165. A major defect in water fall model in software development is that:

- a. the documentation is difficult
 - b. a blunder at any stage can be disastrous
 - c. a trial version is available only at the end of the project
 - d. the maintenance of the software is difficult
-

166. Function point metric of a software also depends on the:

- a. number of function needed
 - b. number of final users of the software
 - c. number of external inputs and outputs
 - d. time required for one set of output from a set of input data
-

167. An error message produced by an interactive system should have:

- a. always the error code
 - b. the list of mistakes done by the user displayed
 - c. a non-judgemental approach
 - d. the past records of the occurrence of the same mistake
-

168. System development cost estimation with use-cases is problematic because:

- a. of paucity of examples
 - b. the data can be totally incorrect
 - c. the expertise and resource available are not used
 - d. the problem is being over simplified
-

169. The approach to software testing is to design test cases to:

- a. break the software
 - b. understand the software
 - c. analyze the design of sub processes in the software
 - d. analyze the output of the software
-

170. Which of the following combination is preferred with respect to cohesion and coupling?

- a. low and low
- b. low and high
- c. high and low
- d. high and high

171. Difference between flow-chart and data-flow diagram is:

- a. there is no difference
- b. usage in high level design and low level design

- c. control flow and data flow
- d. used in application programs and system programs
-

Match the following:

- (a) Unit test (i) Requirements
(b) System test (ii) Design
172. (c) Validation test (iii) Code
(d) Integration test (iv) System Engineering

Which of the following is true?

- (a) (b) (c) (d)
- a. (ii) (iii) (iv) (i)
b. (i) (ii) (iv) (iii)
c. (iii) (iv) (i) (ii)
d. **None of the above**
-

Problems with waterfall model are:

173. 1. Real projects rarely follow this model proposes
2. It is often difficult for the customer
3. Working model is available only in the end
4. Developers are delayed unnecessarily
- a. 1 and 4 only
b. 2 and 3 only
c. 1, 2 and 3 only
d. **1, 2, 3 and 4**
-

174. Which one of the following is a object-oriented approaches:
- a. The Booch method
b. The Rumbaugh method
c. The Coad and Yomdon method
d. **All of the above**
-

175. Which possibility among the following is invalid in case of a Data Flow Diagram ?
- a. A process having in-bound data flows more than out-bound data flows
b. A data flow between two processes
c. **A data flow between two data stores**
d. A data store having more than one in-bound data flows
-

176. Which of the following tools is not required during system analysis phase of system development life cycle?
- Case tool
 - RAD tool
 - Reverse engineering
 - None of these
-

Software Cost Performance index (CPI) is given by:

177. (Where: BCWP stands for Budgeted Cost of Work Performed
BCWS stands for Budget Cost of Work Scheduled
ACWP stands for Actual Cost of Work Performed)
- BCWP/ACWP
 - BCWP–ACWP
 - BCWP–BCWS
 - None of the above
-

178. Software Risk estimation involves following two tasks:
- risk magnitude and risk impact
 - risk probability and risk impact
 - risk maintenance and risk impact
 - risk development and risk impact
-

179. In a object oriented software design, ‘Inheritance’ is a kind of.....
- relationship
 - module
 - testing
 - optimization
-

180. Reliability of software is directly dependent on:
- quality of the design
 - number of errors present
 - software engineer’s experience
 - user requirement

181. ‘Abstraction’ is.....step of Attribute in a software design.
- First
 - Final
 - Last
 - Middle

182. In software project planning, work Breakdown structure must be

- a. A graph
 - b. **A tree**
 - c. A Euler's graph
 - d. None of the above
-

183. In Software Metrics, McCABE's cyclomatic number is given by following formula:

- a. **$c=e-n+2p$**
 - b. $c=e-n-2p$
 - c. $c=e+n+2p$
 - d. $c=e-n*2p$
-

184. In a good software design, coupling is desirable between modules.

- a. Highest
 - b. **Lowest**
 - c. Internal
 - d. External
-

185. System study yields the following:

- a. Requirement specifications
 - b. Prevailing process description
 - c. Data source identification
 - d. **All the above**
-

186. The COCOMO model is used for

- a. software design
 - b. software cost estimation
 - c. software cost approximation
 - d. **software analysis**
-

187. The testing of software against SRS is called:

- a. **Acceptance testing**
 - b. Integration testing
 - c. Regression testing
 - d. Series testing
-

188. The lower degree of cohesion is:

- a. logical cohesion

- b. coincidental cohesion
 - c. procedural cohesion
 - d. communicational cohesion
-

189. The reliability of the software is directly dependent upon:

- a. Quality of the design
 - b. Programmer's experience
 - c. Number of error
 - d. Set of user requirements
-

190. Successive layer of design in software using bottom-up design is called:

- a. Layer of Refinement
- b. Layer of Construction
- c. Layer of abstraction
- d. None of the above

191. Sliding window concept of software project management is:

- a. Preparation of comprehensible plan
 - b. Preparation of the various stages of development
 - c. Ad-hoc planning
 - d. Requirement analysis
-

192. A black hole in a DFD is a:

- a. A data store with no inbound flows
 - b. A data store with only in bound flows
 - c. A data store with more than one in bound flow
 - d. None of these
-

The capability maturity model (err) defines 5 levels:

- | | |
|------------------|------------------|
| (a) Level 1 | (i) Managed |
| (b) Level 2 | (ii) Defined |
| (c) Level 3 | (iii) Repeatable |
| 193. (d) Level 4 | (iv) Initial |
| (e) Level 5 | (v) Optimized |
-

correct matching is:

- | | | | | | |
|----|------|-------|-------|------|------|
| a | b | c | d | e | |
| a. | (i) | (ii) | (iii) | (iv) | (v) |
| b. | (iv) | (iii) | (ii) | (i) | (v) |
| c. | (v) | (i) | (iii) | (ii) | (iv) |

- d. (v) (ii) (i) (iii) (iv)
-

194. Which one of the following is not a software process model ?

- a. Linear sequential model
 - b. Prototyping model
 - c. The spiral model
 - d. **COCOMO model**
-

System Development Life-cycle has following stages:

195. (I) Requirement analysis (II) Coding
 (III) Design (IV) Testing

Which option describes the correct sequence of stages?

- a. III, I, IV, II
 - b. II, III, I, IV
 - c. I, III, IV, II
 - d. **None of the above**
-

196. Which one is measure of software complexity ?

- a. **Number of lines of code (LOC)**
 - b. Number of man years
 - c. Number of function points (FP)
 - d. All of the above
-

197. Which type of coupling is least preferred ?

- a. **Content coupling**
 - b. Data coupling
 - c. Control coupling
 - d. Common coupling
-

198. The main objective of designing various modules of a software system is:

- a. To decrease the cohesion and to increase the coupling
 - b. **To increase the cohesion and to decrease the coupling**
 - c. To increase the coupling only
 - d. To increase the cohesion only
-

199. Three essential components of a software project plan are:

- a. Team structure, Quality assurance plans, Cost estimation

- b. Cost estimation, Time estimation, Quality assurance plan
 - c. Cost estimation, Time estimation, Personnel estimation
 - d. Cost estimation, Personnel estimation, Team structure
-

200. Reliability of software is dependent on:

- a. Number of errors present in software
- b. Documentation
- c. Testing suites
- d. Development Processes

201. In transform analysis, input portion is called:

- a. Afferent branch
 - b. Efferent branch
 - c. Central Transform
 - d. None of the above
-

202. The Function Point (FP) metric is:

- a. Calculated from user requirements
 - b. Calculated from Lines of code
 - c. Calculated from software's complexity assessment
 - d. None of the above
-

203. The process of testing individual components in a software.

- a. Interface Testing
 - b. Partition Testing
 - c. Unit Testing
 - d. Structural Testing
-

204. The approach used for requirements elicitation in software design and development process:

- a. View Points
 - b. Interview
 - c. Use-Cases
 - d. All of these
-

205. Among the following, a representation that can be used for designing a system as a collection of procedures or modules:

- a. Data flow diagrams
- b. Activity Chart
- c. Flow chart

d. ER Modeling

206. Boundary value analysis is a method for:

- a. White box testing
 - b. Black box testing
 - c. Structural testing
 - d. Mutation testing
-

207. Interaction modeling cannot be done using:

- a. State Diagrams
 - b. Use-Cases
 - c. Sequence Diagrams
 - d. Activity Diagrams
-

208. In PERT/CPM, the merge event represents of two or more events.

- a. completion
 - b. beginning
 - c. splitting
 - d. joining
-

209. The Software Requirement Specification (SRS) is said to be if and only if no subset of individual requirements described in it conflict with each other.

- a. Correct
 - b. Consistent
 - c. Unambiguous
 - d. Verifiable
-

210. Software products need perfective maintenance for which of the following reasons?

- a. To rectify bugs observed while the system is in use
 - b. When the customers need the product to run on new platforms
 - c. To support new features that users want it to support
 - d. To overcome wear and tear caused by the repeated use of the software
-

Match each UML diagram in List I to its appropriate description in List II

List I List II

211. (a) State Diagram (i) Describes how the external entities (people, devices) can interact with the system
(b) Use-Case Diagram (ii) Used to describe the static or structural view of a system

- (c) Class Diagram (iii) Used to show the flow of a business process, the steps of a use-case or the logic of an object behaviour
- (d) Activity Diagram (iv) Used to describe the dynamic behaviour of objects and could also be used to describe the entire system behaviour
- a. (a)-(i); (b)-(iv); (c)-(ii); (d)-(iii)
- b. (a)-(iv); (b)-(ii); (c)-(i); (d)-(iii)
- c. (a)-(i); (b)-(iv); (c)-(iii); (d)-(ii)
- d. (a)-(iv); (b)-(i); (c)-(ii); (d)-(iii)
-

Which of the following statements is/are false?

212. P: The clean-room strategy to software engineering is based on the incremental software process model.
- Q: The clean-room strategy to software engineering is one of the ways to overcome “unconscious” copying of copyrighted code.
- a. P only
- b. Q only
- c. Both P and Q
- d. Neither P nor Q
-

213. A legacy software system has 940 modules. The latest release required that 90 of these modules be changed. In addition, 40 new modules were added and 12 old modules were removed. Compute the software maturity index for the system.

- a. 0.849
- b. 0.524
- c. 0.725
- d. 0.923
-

Which of the following statements is/are true?

214. P: Software Reengineering is preferable for software products having high failure rates, having poor design and/or having poor code structure.
- Q: Software Reverse Engineering is the process of analyzing software with the objective of recovering its design and requirement specification.
- a. P only
- b. Q only
- c. Both P and Q
- d. Neither P nor Q
-

215. Which of the following is not one of the principles of agile software development method?

- a. Customer involvement
 - b. Embrace change
 - c. Incremental delivery
 - d. Following the plan
-

Software coupling involves dependencies among pieces of software called modules. Which of the following are correct statements with respect to module coupling?

P: Common coupling occurs when two modules share the same global data.

216. Q: Control coupling occurs when modules share a composite data structure and use only parts of it.

R: Content coupling occurs when one module modifies or relies on the internal working of another module.

Choose the correct answer from the code given below:

- a. P and Q only
 - b. P and R only
 - c. Q and R only
 - d. All of P, Q and R
-

Assume the following regarding the development of a software system P:

- Estimated lines of code of P: 33,480 LOC

- Average productivity for P: 620 LOC per person-month

- Number of software developers: 6

217. - Average salary of a software developer: Rs. 50,000 per month

If E, D and C are the estimated development effort (in person-months), estimated development time (in months), and estimated development cost (in Rs Lac) respectively, then (E, D, C) =

- a. (48, 8, 24)
 - b. (54, 9, 27)
 - c. (60, 10, 30)
 - d. (42, 7, 21)
-

Match the following in Software Engineering:

218. List - I

- (a) Product Complexity
- (b) Structured System Analysis

- (c) Coupling and Cohesion
- (d) Symbolic Execution

List - II

- (i) Software Requirements Definition
- (ii) Software Design
- (iii) Validation Technique
- (iv) Software Cost Estimation

Code:

- (a) (b) (c) (d)
 - a. (ii) (iii) (iv) (i)
 - b. (iii) (i) (iv) (ii)
 - c. (iv) (i) (ii) (iii)
 - d. (iii) (iv) (i) (ii)
-

219. Which one of the following is not typically provided by Source Code Management Software?

- a. Synchronisation
 - b. Versioning and Revision history
 - c. Syntax highlighting
 - d. Project forking
-

220. A software system crashed 20 times in the year 2017 and for each crash, it took 2 minutes to restart. Approximately, what was the software availability in that year?

- a. 96.9924%
- b. 97.9924%
- c. 98.9924%
- d. 99.9924%

Match the 5 CMM Maturity levels/CMMI staged representations in List- I with their characterizations in List-II:

List - I

- (a) Initial
- (b) Repeatable
- 221 (c) Defined
- (d) Managed
- (e) Optimizing

List - II

- (i) Processes are improved quantitatively and continually.

- (ii) The plan for a project comes from a template for plans.
- (iii) The plan uses processes that can be measured quantitatively.
- (iv) There may not exist a plan or it may be abandoned.
- (v) There's a plan and people stick to it.

Code:

- (a) (b) (c) (d) (e)
 - a. (iv) (v) (i) (iii) (ii)
 - b. (i) (ii) (iv) (v) (iii)
 - c. (v) (iv) (ii) (iii) (i)
 - d. (iv) (v) (ii) (iii) (i)
-

Coupling is a measure of the strength of the interconnections between software modules.
Which of the following are correct statements with respect to module coupling?

P: Common coupling occurs when one module controls the flow of another module by
222. passing it information on what to do.

Q: In data coupling, the complete data structure is passed from one module to another
through parameters.

R: Stamp coupling occurs when modules share a composite data structure and use only
parts of it.

- a. P and Q only
 - b. P and R only
 - c. Q and R only
 - d. All of P, Q and R
-

223. A software design pattern often used to restrict access to an object is:

- a. adapter
 - b. decorator
 - c. delegation
 - d. proxy
-

Reasons to re-engineer a software include :

- P: Allow legacy software to quickly adapt to the changing requirements
224. Q: Upgrade to newer technologies/platforms/paradigm (for example, object-oriented)
R: Improve software maintainability
S: Allow change in the functionality and architecture of the software
- a. P, R and S only
 - b. P and R only
 - c. P, Q and S only
 - d. P, Q and R only

225. Which of the following is not a key strategy followed by the clean room approach to software development?

- a. Formal specification
 - b. **Dynamic verification**
 - c. Incremental development
 - d. Statistical testing of the system
-

Which of the following statements is/are True?

226. P: Refactoring is the process of changing a software system in such a way that it does not alter the external behaviour of the code yet improves the internal architecture.

Q: An example of refactoring is adding new features to satisfy a customer requirement discovered after a project is shipped.

- a. **P only**
 - b. Q only
 - c. Both P and Q
 - d. Neither P nor Q
-

227. Software does not wear-out in the traditional sense of the term, but software does tend to deteriorate as it evolves, because

- a. Software suffers from exposure to hostile environments.
 - b. Defects are more likely to arise after software has been used often.
 - c. **Multiple change requests introduce errors in component interactions.**
 - d. Software spare parts become harder to order.
-

228. Software re-engineering is concerned with:

- a. Re-constructing the original source code from the existing machine (low - level) code program and modifying it to make it more user - friendly.
 - b. Scrapping the source code of a software and re-writing it entirely from scratch.
 - c. **Re-organising and modifying existing software systems to make them more maintainable.**
 - d. Translating source code of an existing software to a new machine (low - level) language.
-

229. Which of the following is not a key issue stressed by an agile philosophy of software engineering?

- a. The importance of self-organizing teams as well as communication and collaboration between team members and customers.
- b. Recognition that change represents opportunity.
- c. Emphasis on rapid delivery of software that satisfies the customer.
- d. **Having a separate testing phase after a build phase.**

What is the normal order of activities in which traditional software testing is organized?

230. (a) Integration Testing
(b) System Testing

(c) Unit Testing
(d) Validation Testing

a. (c), (a), (b), (d)

b. (c), (a), (d), (b)

c. (d), (c), (b), (a)

d. (b), (d), (a), (c)

231. Which of the following testing techniques ensures that the software product runs correctly after the changes during maintenance?

a. Path Testing

b. Integration Testing

c. Unit Testing

d. Regression Testing

232. Which of the following statements about ERP system is true?

a. Most ERP software implementations fully achieve seamless integration.

ERP software packages are themselves combinations of separate applications for

b. manufacturing, materials, resource planning, general ledger, human resources, procurement and order entry.

c. Integration of ERP systems can be achieved in only one way.

d. An ERP package implemented uniformly throughout an enterprise is likely to contain very flexible connections to allow changes and software variations.

Answer: (b).ERP software packages are themselves combinations of separate applications for manufacturing, materials, resource planning, general ledger, human resources, procurement and order entry.

233. Statistical software quality assurance in software engineering involves

a. using sampling in place of exhaustive testing of software.

b. surveying customers to find out their opinions about product quality.

c. tracing each defect to its underlying cause, isolating the vital few causes, and moving to correct them.

d. tracing each defect to its underlying causes, and using the Pareto principle to correct each problem found.

234. Which of the following statements is/are FALSE with respect to software testing?

S1 : White-box tests are based on specifications; better at telling whether program meets specification, better at finding errors of omission.

S2 : Black-box tests are based on code; better for finding crashes, out of bounds errors, file not closed errors.

S3 : Alpha testing is conducted at the developer's site by a team of highly skilled testers for software that is developed as a product to be used by many customers.

- a. Only S1 and S2 are FALSE.
 - b. Only S1 and S3 are FALSE.
 - c. Only S2 and S3 are FALSE.
 - d. All of S1, S2, and S3 are FALSE.
-

235. A signal processor software is expected to operate for 91.25 days after repair, and the mean software repair time is expected to be 5 minutes. Then, the availability of the software is :

- a. 96.9862%
 - b. 97.9862%
 - c. 98.9962%
 - d. 99.9962%
-

Consider the method mcq ().

If

M1 = Number of tests to exhaustively test mcq ();

M2 = Minimum number of tests to achieve full statement coverage for mcq (); and

M3 = Minimum number of tests to achieve full branch coverage for mcq ();

then (M1, M2, M3) =

236.

```
int mcq (boolean a, boolean b, boolean c, boolean d)
{
    int ans=1;
    if (a) {ans = 2;}
    else if (b) {ans = 3;}
    else if (c) {
        if (d) {ans=4;}
    }
    return ans ;
}
```

- a. (16, 3, 5)
 - b. (8, 5, 3)
 - c. (8, 3, 5)
 - d. (16, 4, 4)
-

237. A simple stand - alone software utility is to be developed in 'C' programming by a team of software experts for a computer running Linux and the overall size of this software is

estimated to be 20,000 lines of code. Considering (a, b) = (2.4, 1.05) as multiplicative and exponention factor for the basic COCOMO effort estimation equation and (c, d)=(2.5, 0.38) as multiplicative and exponention factor for the basic COCOMO development time estimation equation, approximately how long does the software project take to complete?

- a. 10.52 months
 - b. **11.52 months**
 - c. 12.52 months
 - d. 14.52 months
-

In Software Configuration Management (SCM), which of the following is a use-case supported by standard version control systems?

238. (a) Managing several versions or releases of a software
(b) Filing bug reports and tracking their progress
(c) Allowing team members to work in parallel
(d) Identifying when and where a regression occurred
- a. **Only (a), (c), and (d)**
 - b. Only (a), (b), and (c)
 - c. Only (a), (b), and (d)
 - d. Only (b), (c), and (d)
1. The most important feature of spiral model is
- | | |
|---------------------------|-------------------------------|
| (A) requirement analysis. | (B) risk management. |
| (C) quality management. | (D) configuration management. |

Ans: B

2. The worst type of coupling is
- | | |
|---------------------|-----------------------|
| (B) Data coupling. | (B) control coupling. |
| (C) stamp coupling. | (D) content coupling. |

Ans: D

3. IEEE 830-1993 is a IEEE recommended standard for
- i. Software requirement specification.
 - ii. Software design.
 - iii. Testing.
- Both **(A)** and **(B)** Ans: A
4. Changes made to an information system to add the desired but not necessarily the required features is called
- i. Preventative maintenance.
 - ii. Adaptive maintenance.
 - iii. Corrective maintenance.
 - iv. Perfective maintenance.

Ans: D

5. All the modules of the system are integrated and tested as complete system

in the case of

- | | |
|----------------------|----------------------|
| i. Bottom up testing | (B) Top-down testing |
| (C) Sandwich testing | (D) Big-Bang testing |

Ans: D

6. If the objects focus on the problem domain, then we are concerned with
- i. Object Oriented Analysis.
 - ii. Object Oriented Design
 - iii. Object Oriented Analysis & Design
 - iv. None of the above

Ans: A

7. SRS is also known as specification of
- i. White box testing
 - (B) Stress testing
 - (C) Integrated testing
 - (D) Black box testing

Ans: D

8. A COCOMO model is
- i. Common Cost Estimation Model.
 - ii. Constructive Cost Estimation Model.
 - iii. Complete Cost Estimation Model.
 - iv. Comprehensive Cost Estimation Model.

Ans: B

9. In the spiral model ‘risk analysis’ is performed
- i. In the first loop
 - (B) in the first and second loop
 - (C) In every loop
 - (D) before using spiral model

Ans: C

10. Coupling and cohesion can be represented using a
- i. cause-effect graph
 - (B) dependence matrix
 - (C) Structure chart
 - (D) SRS

Ans: B

11. Each time a defect gets detected and fixed, the reliability of a software product
- i. increases.
 - (B) decreases.
 - (C) remains constant.
 - (D) cannot say anything.

Ans: A

12. The level at which the software uses scarce resources is
- i. reliability
 - (B) efficiency
 - (C) portability
 - (D) all of the above

Ans: B

13. Alpha and Beta Testing are forms of
- i. Acceptance testing
 - (B) Integration testing
 - (C) System Testing
 - (D) Unit testing

Ans: A

14. An object encapsulates

- | | |
|------------------|------------------------------------|
| i. Data | (B) Behaviour |
| (C) State | (D) Both Data and behaviour |

Ans: D

15. Number of clauses used in ISO 9001 to specify quality system requirements are:

- | | |
|---------------|---------------|
| (A) 15 | (B) 20 |
| (C) 25 | (D) 28 |

Ans: B

16. Changes made to the system to reduce the future system failure chances is called

- | | |
|-----------------------------------|-----------------------------------|
| i. Preventive Maintenance | (B) Adaptive Maintenance |
| (C) Corrective Maintenance | (D) Perfective Maintenance |

Ans: A

17. The model that assumes that effort and development time are functions of product size alone is

- | | |
|----------------------------------|--|
| i. Basic COCOMO model | (B) Intermediate COCOMO model |
| (C) Detailed COCOMO model | (D) All the three COCOMO models |

Ans: A

18. The testing that focuses on the variables is called

- | | |
|----------------------------------|------------------------------|
| i. black box testing | (B) white box testing |
| (C) data variable testing | (D) data flow testing |

Ans: A

19. Which phase is not available in software life cycle?

- | | |
|------------------------|------------------------|
| i. Coding | (B) Testing |
| (C) Maintenance | (D) Abstraction |

Ans: D

20. Which of these terms is a level name in the Capability Maturity Model?

- | | |
|---------------------|-----------------------|
| i. Ad hoc | (B) Repeatable |
| (C) Reusable | (D) Organized |

Ans: C

21. Top down approach is used for

- | | |
|------------------------------------|--------------------------------------|
| i. development. | (B) identification of faults. |
| (C) testing and validation. | (D) reverse engineering. |

Ans: A

22. What types of models are created during software requirements analysis?

- | | |
|---|---|
| i. Functional and behavioral | (B) Algorithmic and data structure |
| (C) Architectural and structural | (D) Usability and reliability |

Ans: A

- 23.** Software feasibility is based on which of the following

 - i. business and marketing concerns
 - ii. scope, constraints, market
 - iii. technology, finance, time, resources
 - iv. technical prowess of the developers

Ans: C

- 24.** FP-based estimation techniques require problem decomposition based on
(A) information domain values (B) project schedule
(C) software functions (D) process activities

Ans: C

Ans: B

26. What is a class?

- A. An abstract representation of something with certain properties .
 - B. A concrete representation of something with certain properties .
 - C. An abstract representation of something with certain properties and abilities.
 - D. A concrete representation of something with certain properties and abilities

Ans: C

27. Major elements of object model are

- A-Class, Object, Method, Interface
 - B-Class, Property, Inheritance
 - C- Abstraction, Encapsulation, Modularity, Hierarchy
 - D-Abstraction, Class, Polymorphism

Ans: C

28. _____ is a blueprint or prototype that defines the variables and the methods common to all objects of a certain kind. Select the best word to complete this sentence.

- A. Class
 - B. Inheritance
 - C. Polymorphism
 - D. Aggregation

Ans: A

29. Which of the following are not in composition in " Car as a system"

- A. Car and seat covers
- B. Car and music system
- C. Car and color
- D. Car and engine

Ans: B

30. Which diagram is NOT commonly used for illustrating use cases?

- (a) system sequence diagram
- (b) activity diagram
- (c) use case diagram
- (d) collaboration diagram

Ans: D

31. Language is object-oriented if and only if it satisfies the following requirements:

- A- It supports objects that are data abstractions with an interface of named operations and a hidden local state.
- B- Objects have an associated type [class].
- C- Types [classes] may inherit attributes from supertypes [superclasses].
- D- a,b,c

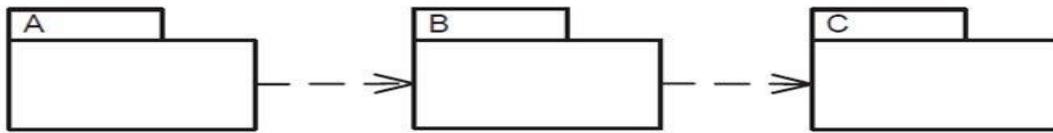
Ans: D

32. -----is the property of an object through which its existence transcends time (i.e., the object continues to exist after its creator ceases to exist) and/or space (i.e., the object's location moves from the address space in which it was created).

- A. Typing
- B. Concurrency
- C. Persistence
- D. Threading

Ans:C

33. What is a true statement about the following packages



- (a) If package C changes, package B must be inspected for necessary changes, and if there are any, package A may have to be adapted as well.
- (b) If package B changes, package A and package C must be inspected for necessary changes.
- (c) Packages should be designed so that a change in one package does not have an effect to other packages.
- (d) If package C changes, package A has to be examined (as well as B), because dependencies are transitive.

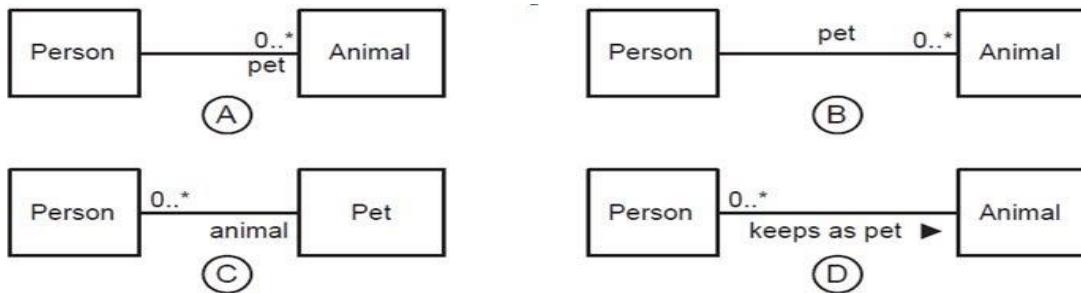
Ans: A

34. If you need to show the physical relationship between software components and the hardware in the delivered system, which diagram can you use

- (a) component diagram
- (b) deployment diagram
- (c) class diagram
- (d) network diagram

Ans: B

35. How do you express that some persons keep animals as pets?



- (a) diagram A
- (b) diagram B
- (c) diagram C
- (d) diagram D

A

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Engineering Ethics – 1”.

1. Choose the correct option in terms of Issues related to professional responsibility

- a) Confidentiality
- b) Intellectual property rights
- c) Both Confidentiality & Intellectual property rights
- d) Managing Client Relationships

[View Answer](#)

Answer: c

Explanation: Engineers should normally respect the confidentiality of their employers or clients irrespective of whether or not a formal confidentiality agreement has been signed.

They should be aware of local laws governing the use of intellectual property such as patents, copyright, etc.

2. “Software engineers should not use their technical skills to *misuse* other people’s computers.” Here the term *misuse* refers to:

- a) Unauthorized access to computer material
- b) Unauthorized modification of computer material
- c) Dissemination of viruses or other malware
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

3. Explain what is meant by *PRODUCT* with reference to one of the eight principles as per the ACM/IEEE Code of Ethics ?

- a) The product should be easy to use
- b) Software engineers shall ensure that their products and related modifications meet the highest professional standards possible
- c) Software engineers shall ensure that their products and related modifications satisfy the client
- d) It means that the product designed /created should be easily available

[View Answer](#)

Answer: b

Explanation: None.

4. Identify an ethical dilemma from the situations mentioned below:

- a) Your employer releases a safety-critical system without finishing the testing of the system
- b) Refusing to undertake a project
- c) Agreement in principle with the policies of senior management
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

5. Identify the correct statement: “Software engineers shall

- a) act in a manner that is in the best interests of his expertise and favour.”

- b) act consistently with the public interest.”
- c) ensure that their products only meet the SRS.”
- d) all of the mentioned

[View Answer](#)

Answer: b

Explanation: Software engineers shall act in a manner that is in the best interests of their client and employer consistent with the public interest and shall ensure that their products and related modifications meet the highest professional standards possible. Thus options a & c are ruled out.

6. Select the incorrect statement: “Software engineers should
- a) not knowingly accept work that is outside your competence.”
 - b) not use your technical skills to misuse other people’s computers.”
 - c) be dependent on their colleagues.”
 - d) maintain integrity and independence in their professional judgment.”

[View Answer](#)

Answer: c

Explanation: None.

7. Efficiency in a software product does not include _____
- a) responsiveness
 - b) licensing
 - c) memory utilization
 - d) processing time

[View Answer](#)

Answer: b

Explanation: Licensing of a software product comes under corporate part of the software company.

8. As per an IBM report, “31% of the projects get cancelled before they are completed, 53% overrun their cost estimates by an average of 189% and for every 100 projects, there are 94 restarts”. What is the reason for these statistics ?

- a) Lack of adequate training in software engineering
- b) Lack of software ethics and understanding
- c) Management issues in the company
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Option b & c are a part of Software Engineering as a subject, hence option a covers them both.

9. The reason for software bugs and failures is due to
- a) Software companies
 - b) Software Developers
 - c) Both Software companies and Developers
 - d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Software companies are responsible for making policies and providing working

atmosphere for the software development, so in turn these companies become a part of software development process. Bugs from developers side is no new thing. Thus option c answers the question.

10. Company has latest computers and state-of the- art software tools, so we shouldn't worry about the quality of the product.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: The infrastructure is only one of the several factors that determine the quality of the product.

This set of Software Engineering Interview Questions and Answers focuses on “Software Engineering Ethics – 2”.

1. Which of these are not among the eight principles followed by Software Engineering Code of Ethics and Professional Practice ?

a) PUBLIC

b) PROFESSION

c) PRODUCT

d) ENVIRONMENT

[View Answer](#)

Answer: d

Explanation: Rest all are clauses for software ethics, environment does not focus on specific clause nor its of importace related to question.

2. What is a Software ?

a) Software is set of programs

b) Software is documentation and configuration of data

c) Software is set of programs, documentation & configuration of data

d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Software is not just set of program but it is also associated documentation and configuration of data to make program run.

3. Which of these does not account for software failure ?

a) Increasing Demand

b) Low expectation

c) Increasing Supply

d) Less reliable and expensive

[View Answer](#)

Answer: c

Explanation: Increasing supply will lead to more production and not failure.

4. What are attributes of good software ?

a) Software maintainability

- b) Software functionality
- c) Software development
- d) Software maintainability & functionality

[View Answer](#)

Answer: d

Explanation: Good software should deliver the required functionality, maintainability. Software development is not an attribute but a fundamental.

5. Which of these software engineering activities are not a part of software processes ?

- a) Software dependence
- b) Software development
- c) Software validation
- d) Software specification

[View Answer](#)

Answer: a

Explanation: Software dependence is an attribute and not an engineering activity for process.

6. Which of these is incorrect ?

- a) Software engineering belongs to Computer science
- b) Software engineering is a part of more general form of System Engineering
- c) Computer science belongs to Software engineering
- d) Software engineering is concerned with the practicalities of developing and delivering useful software

[View Answer](#)

Answer: c

Explanation: Software engineering is a vast sub domain which comes under computer science which is main domain.

7. Which of these is true ?

- a) Generic products and customized products are types of software products
- b) Generic products are produced by organization and sold to open market
- c) Customized products are commissioned by particular customer
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All of them are true.

8. Which of these does not affect different types of software as a whole?

- a) Heterogeneity
- b) Flexibility
- c) Business and social change
- d) Security

[View Answer](#)

Answer: b

Explanation: Option b & c are a part of Software Engineering as a subject,hence option a covers them both.

9. The fundamental notions of software engineering does not account for ?

- a) Software processes
- b) Software Security
- c) Software reuse
- d) Software Validation

[View Answer](#)

Answer: d

Explanation: Software validation is an activity for software process and not the fundamental for engineering.

10. Which of these is not true ?

- a) Web has led to availability of software services and possibility of developing highly distributed service based systems
- b) Web based systems have led to degradation of programming languages
- c) Web brings concept of software as service
- d) Web based system should be developed and delivered incrementally

[View Answer](#)

Answer: b

Explanation: Web based systems has led to important advances in programming languages.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Life Cycle Models”.

1. Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code).

- a) 100-200
- b) 200-400
- c) 400-1000
- d) above 1000

[View Answer](#)

Answer: a

Explanation: Build & Fix Model is suitable for small projects & programming exercises of 100 or 200 lines.

2. RAD stands for

- a) Relative Application Development
- b) Rapid Application Development
- c) Rapid Application Document
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

3. Which one of the following models is not suitable for accommodating any change?

- a) Build & Fix Model
- b) Prototyping Model
- c) RAD Model

d) Waterfall Model

[View Answer](#)

Answer: d

Explanation: Real projects rarely follow the sequential flow that the Waterfall Model proposes.

4. Which is not one of the types of prototype of Prototyping Model?

- a) Horizontal Prototype
- b) Vertical Prototype
- c) Diagonal Prototype
- d) Domain Prototype

[View Answer](#)

Answer: c

Explanation: There is no such thing as Diagonal Prototype whereas other options have their respective definitions.

5. Which one of the following is not a phase of Prototyping Model?

- a) Quick Design
- b) Coding
- c) Prototype Refinement
- d) Engineer Product

[View Answer](#)

Answer: b

Explanation: A prototyping model generates only a working model of a system.

6. Which of the following statements regarding Build & Fix Model is wrong?

- a) No room for structured design
- b) Code soon becomes unfixable & unchangeable
- c) Maintenance is practically not possible
- d) It scales up well to large projects

[View Answer](#)

Answer: d

Explanation: Build & Fix Model is suitable for 100-200 LOC

7. RAD Model has

- a) 2 phases
- b) 3 phases
- c) 5 phases
- d) 6 phases

[View Answer](#)

Answer: c

Explanation: RAD Model consists of five phases namely: Business modeling, Data modeling, Process modeling, Application generation and Testing & Turnover.

8. What is the major drawback of using RAD Model?

- a) Highly specialized & skilled developers/designers are required
- b) Increases reusability of components
- c) Encourages customer/client feedback
- d) Increases reusability of components, Highly specialized & skilled developers/designers are

required

[View Answer](#)

Answer: d

Explanation: The client may create an unrealistic product vision leading a team to over or under-develop functionality. Also, the specialized & skilled developers are not easily available.

9. SDLC stands for

- a) Software Development Life Cycle
- b) System Development Life cycle
- c) Software Design Life Cycle
- d) System Design Life Cycle

[View Answer](#)

Answer: a

Explanation: None.

10. Which model can be selected if user is involved in all the phases of SDLC?

- a) Waterfall Model
- b) Prototyping Model
- c) RAD Model
- d) both Prototyping Model & RAD Model

[View Answer](#)

Answer: c

Explanation: None.

This set of Software Engineering Questions and Answers for Campus interviews focuses on “Evolutionary Software Process Models”.

1. Which one of the following is not an Evolutionary Process Model?

- a) WINWIN Spiral Model
- b) Incremental Model
- c) Concurrent Development Model
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

2. The Incremental Model is a result of combination of elements of which two models?

- a) Build & FIX Model & Waterfall Model
- b) Linear Model & RAD Model
- c) Linear Model & Prototyping Model
- d) Waterfall Model & RAD Model

[View Answer](#)

Answer: c

Explanation: Each linear sequence produces a deliverable “increment” of the software and particularly when we have to quickly deliver a limited functionality system.

3. What is the major advantage of using Incremental Model?

- a) Customer can respond to each increment

- b) Easier to test and debug
- c) It is used when there is a need to get a product to the market early
- d) Easier to test and debug & It is used when there is a need to get a product to the market early

[View Answer](#)

Answer: d

Explanation: Incremental Model is generally easier to test and debug than other methods of software development because relatively smaller changes are made during each iteration and is popular particularly when we have to quickly deliver a limited functionality system. However, option “a” can be seen in other models as well like RAD model, hence option “d” answers the question.

4. The spiral model was originally proposed by

- a) IBM
- b) Barry Boehm
- c) Pressman
- d) Royce

[View Answer](#)

Answer: b

Explanation: None.

5. The spiral model has two dimensions namely _____ and _____

- a) diagonal, angular
- b) radial, perpendicular
- c) radial, angular
- d) diagonal, perpendicular

[View Answer](#)

Answer: c

Explanation: The radial dimension of the model represents the cumulative costs and the angular dimension represents the progress made in completing each cycle. Each loop of the spiral from X-axis clockwise through 360° represents one phase.

6. How is WINWIN Spiral Model different from Spiral Model?

- a) It defines tasks required to define resources, timelines, and other project related information
- b) It defines a set of negotiation activities at the beginning of each pass around the spiral
- c) It defines tasks required to assess both technical and management risks
- d) It defines tasks required to construct, test, install, and provide user support

[View Answer](#)

Answer: b

Explanation: Except option “b” all other tasks/activities are present in Spiral Model as well.

7. Identify the disadvantage of Spiral Model.

- a) Doesn’t work well for smaller projects
- b) High amount of risk analysis
- c) Strong approval and documentation control
- d) Additional Functionality can be added at a later date

[View Answer](#)

Answer: a

Explanation: All other options are the advantages of Spiral Model.

8. Spiral Model has user involvement in all its phases.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: None.

9. How is Incremental Model different from Spiral Model?

- a) Progress can be measured for Incremental Model
- b) Changing requirements can be accommodated in Incremental Model
- c) Users can see the system early in Incremental Model
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

10. If you were to create client/server applications, which model would you go for?

- a) WINWIN Spiral Model
- b) Spiral Model
- c) Concurrent Model
- d) Incremental Model

[View Answer](#)

Answer: c

Explanation: When applied to client/server applications, the concurrent process model defines activities in two dimensions: a system dimension and a component dimension. Thus Concurrency is achieved by system and component activities occurring simultaneously and can be modeled using the state-oriented approach.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Selection of a Life Cycle Model”.

1. Selection of a model is based on

- a) Requirements
- b) Development team & Users
- c) Project type and associated risk
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Each model has to have some requirements, a team of developers, users and the risk involved in developing a project.

2. Which two models doesn't allow defining requirements early in the cycle?

- a) Waterfall & RAD
- b) Prototyping & Spiral
- c) Prototyping & RAD
- d) Waterfall & Spiral

[View Answer](#)

Answer: b

Explanation: Prototyping Model starts with a requirements analysis phase including techniques like FAST, QFD, Brainstorming. In case of Spiral model the first phase involves activities related to customer communication like determining objectives.

3. Which of the following life cycle model can be chosen if the development team has less experience on similar projects?

- a) Spiral
- b) Waterfall
- c) RAD
- d) Iterative Enhancement Model

[View Answer](#)

Answer: a

Explanation: Relying on risk assessment/analysis provides more flexibility than required for many applications which overcomes the criteria of less experienced developers.

4. If you were a lead developer of a software company and you are asked to submit a project/product within a stipulated time-frame with no cost barriers, which model would you select?

- a) Waterfall
- b) Spiral
- c) RAD
- d) Incremental

[View Answer](#)

Answer: c

Explanation: RAD model is inapplicable to develop cheaper products/software/projects as the cost of modeling, hiring highly skilled developers/designers and automated code generation is very high. But here the cost is not an issue, so one can select this model as it reduces development time.

5. Which two of the following models will not be able to give the desired outcome if user's participation is not involved?

- a) Waterfall & Spiral
- b) RAD & Spiral
- c) RAD & Waterfall
- d) RAD & Prototyping

[View Answer](#)

Answer: d

Explanation: Active Participation of user is involved in all the four phases of RAD model and in case of the Prototyping model we need user's presence/involvement every time a new prototype is build or designed.

6. A company is developing an advance version of their current software available in the market, what model approach would they prefer ?

- a) RAD
- b) Iterative Enhancement
- c) Both RAD & Iterative Enhancement

d) Spiral

[View Answer](#)

Answer: c

Explanation: None.

7. One can choose Waterfall Model if the project development schedule is tight.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Real projects rarely follow the sequential flow and iterations in this model are handled indirectly. This changes can cause confusion as the project proceeds thereby delaying the delivery date.

8. Choose the correct option from given below:

a) Prototyping Model facilitates reusability of components

b) RAD Model Model facilitates reusability of components

c) Both RAD & Prototyping Model facilitates reusability of components

d) None

[View Answer](#)

Answer: c

Explanation: None.

9. Spiral Model has high reliability requirements.

a) True

b) False

[View Answer](#)

Answer: a

Explanation: None.

10. RAD Model has high reliability requirements.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Fourth Generation Techniques”.

1. Identify a fourth generation language(4GL) from the given below.

a) FORTRAN

b) COBOL

c) Unix shell

d) C++

[View Answer](#)

Answer: c

Explanation: Rest all are third generation languages(3GL).

2. Arrange the following activities for making a software product using 4GT.

- i. Design strategy
 - ii. Transformation into product
 - iii. Implementation
 - iv. Requirement gathering
- a) 1, 4, 3, 2
 - b) 4, 3, 1, 2
 - c) 4, 1, 3, 2
 - d) 1, 3, 4, 2

[View Answer](#)

Answer: c

Explanation: The sequence of activities mentioned in option c represents the Fourth Generation Techniques(4GT)Model.

3. 4GL is an example of _____ processing.

- a) White Box
- b) Black Box
- c) Functional
- d) Both Black Box & Functional

[View Answer](#)

Answer: d

Explanation: Functional processing/testing is also referred to as black box testing in which contents of the black box are not known.Almost anything might be referred to as a black box:an algorithm or the human mind.Functionality of the black box is understood in terms of its inputs and outputs.

4. The 4GT Model is a package of _____

- a) CASE Tools
- b) Software tools
- c) Software Programs
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: 4GT encompasses a broad array of software tools enabling the software engineer to specify the characteristics at a high level leading to an automatically generated source code based on these specifications.

5. Which of the following is not a type of a 4GL? One originating _____

- a) on Lisp machine
- b) on report generators
- c) from database query languages
- d) from GUI creators

[View Answer](#)

Answer: a

Explanation: Fifth-generation programming language are built on LISP.

6. In 4GT, we can specify the user requirements in graphic notation or small abbreviated language form.

a) True

b) False

[View Answer](#)

Answer: a

Explanation: None.

7. Productivity of software engineers is reduced in using a 4GT.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: 4GLs are more programmer-friendly and enhance programming efficiency with usage of English-like words and phrases, thereby increasing the productivity of professionals able to engage in software development.

8. Which of the following 4GLs invented at IBM and subsequently adopted by ANSI and ISO as the standard language for managing structured data?

a) SQL

b) PROLOG

c) C

d) JAVA

[View Answer](#)

Answer: a

Explanation: C & JAVA are third generation languages(3GLs) whereas PROLOG is a 5GL.

9. What is a major advantage of using a 4GT Model for producing small scale products, applications or programs ?

a) Improved productivity of software engineers

b) Reduction in software development time

c) 4GT helped by CASE tools and code generators offers a credible solution to many software problems

d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Since automated coding is done using CASE tools & code generators proponents claim a dramatic reduction in software development time.

10. Which of the following model has a major disadvantage in terms of the coding phase of a software life cycle model ?

a) Spiral Model

b) Waterfall Model

c) Rad Model

d) 4GT Model

[View Answer](#)

Answer: d

Explanation: Since coding phase is eliminated in 4GT Model,more expertise is required for analysis,design and testing activities.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Process and Product – 1”.

1. Which one of the following is not a software process quality?

- a) Productivity
- b) Portability
- c) Timeliness
- d) Visibility

[View Answer](#)

Answer: b

Explanation: Portability is a software product quality which means software can run on different hardware platforms or software environments.

2. _____ & _____ are two kinds of software products.

- a) CAD, CAM
- b) Firmware, Embedded
- c) Generic, Customised
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: rest all are sub categories/applications of option c.

3. Software costs more to maintain than it does to develop.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: For systems with a long life, maintenance costs may be several times development costs.

4. Which one of the following is not an application of embedded software product?

- a) keypad control of a security system
- b) pattern recognition game playing
- c) digital function of dashboard display in a car
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Pattern recognition uses Artificial Intelligence (AI) software.

5. Purpose of process is to deliver software

- a) in time
- b) with acceptable quality
- c) that is cost efficient
- d) both in time & with acceptable quality

[View Answer](#)

Answer: d

Explanation: Cost of a software is a management issue & is not related to process activities.

6. The work associated with software engineering can be categorized into three generic phases, regardless of application area, project size, or complexity namely the _____ phase which focuses on *what*, the _____ phase which focuses on *how* and the _____ phase which focuses on *change*.

- i. support
 - ii. development
 - iii. definition
- a) 1, 2, 3
 - b) 2, 1, 3
 - c) 3, 2, 1
 - d) 3, 1, 2

[View Answer](#)

Answer: c

Explanation: None.

7. Which of the following activities of a Generic Process framework provides a feedback report?

- a) Communication
- b) Planning
- c) Modeling & Construction
- d) Deployment

[View Answer](#)

Answer: d

Explanation: In Deployment the product is delivered to the customer who evaluates the product and provides feedback based on the evaluation.

8. Process adopted for one project is same as the process adopted from another project.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: the overall flow of activities, actions, tasks, the level of autonomy given to the software team and the inter dependencies among two process can never be the same.

9. Which one of the following is not an Umbrella Activity that complements the five process framework activities and help team manage and control progress, quality, change, and risk.

- a) Reusability management
- b) Risk management
- c) Measurement
- d) User Reviews

[View Answer](#)

Answer: d

Explanation: None.

10. Four types of change are encountered during the support phase. Which one of the following is not one that falls into such category?

- a) Translation
- b) Correction
- c) Adaptation

d) Prevention

[View Answer](#)

Answer: a

Explanation: Translation is done in the development phase.

This set of Software Engineering Questions and Answers for Freshers focuses on “Software Process and Product – 2”.

1. If a software production gets behind schedule, one can add more programmers and catch up.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: As new people are added, people who were working must spend time educating the newcomers, thereby reducing the amount of time spent on productive development effort.

2. Choose an internal software quality from given below:

a) scalability

b) usability

c) reusability

d) reliability

[View Answer](#)

Answer: c

Explanation: rest all are external qualities which are visible to the user.

3. RUP stands for _____ created by a division of _____

a) Rational Unified Program, IBM

b) Rational Unified Process, Infosys

c) Rational Unified Process, Microsoft

d) Rational Unified Process, IBM

[View Answer](#)

Answer: d

Explanation: None.

4. The RUP is normally described from three perspectives-dynamic, static & practice.What does static perspective do ?

a) It shows the process activities that are enacted

b) It suggests good practices to be used during the process

c) It shows the phases of the model over time

d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

5. The only deliverable work product for a successful project is the working program.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: A working program is only one part of a software configuration that includes many elements. Documentation provides a foundation for successful engineering and, more important, guidance for software support.

6. Which phase of the RUP is used to establish a business case for the system ?

- a) Transition
- b) Elaboration
- c) Construction
- d) Inception

[View Answer](#)

Answer: d

Explanation: None.

7. Which one of the following is not a fundamental activity for software processes in software engineering ?

- a) Software Verification
- b) Software Validation
- c) Software design and implementation
- d) Software evolution

[View Answer](#)

Answer: a

Explanation: Software Verification is accounted for in implementation & testing activity.

8. A general statement of objectives is the major cause of failed software efforts.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: A formal and detailed description of the information domain, function, behavior, performance, interfaces, design constraints and validation criteria is essential which can be determined only after thorough communication between customer and developer.

9. The longer a fault exists in software

- a) the more tedious its removal becomes
- b) the more costly it is to detect and correct
- c) the less likely it is to be properly corrected
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

10. Component-based Software Engineering allows faster delivery.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Due to using previously tested components they produce more reliable system at a faster rate.

11. Arrange the following steps to form a basic/general Engineering Process Model.

- i. Test
 - ii. Design
 - iii. Install
 - iv. Specification
 - v. Manufacture
 - vi. Maintain
- a) 2, 4, 5, 1, 6, 3
 - b) 4, 2, 5, 1, 3, 6
 - c) 2, 4, 5, 1, 3, 6
 - d) 4, 2, 5, 1, 6, 3

[View Answer](#)

Answer: b

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Agile Software Development”.

1. Select the option that suits the Manifesto for Agile Software Development

- a) Individuals and interactions
- b) Working software
- c) Customer collaboration
- d) All of the mentioned

[View Answer](#)

Answer:d

Explanation: None.

2. Agile Software Development is based on

- a) Incremental Development
- b) Iterative Development
- c) Linear Development
- d) Both Incremental and Iterative Development

[View Answer](#)

Answer:d

Explanation: The software is developed in increments with the customer specifying the requirements to be included in each increment and the highest priority is to satisfy the customer through early and continuous delivery of valuable software. They are iterative because they work on one iteration followed by improvements in next iteration

3. Which one of the following is not an agile method?

- a) XP
- b) 4GT
- c) AUP

d) All of the mentioned

[View Answer](#)

Answer:b

Explanation: The 4GT approach does not incorporate iteration and the continuous feedback, which is the fundamental aspect of an agile method.

4. Agility is defined as the ability of a project team to respond rapidly to a change.

a) True

b) False

[View Answer](#)

Answer:b

Explanation: The aim of agile methods is to reduce overheads in the software process and to be able to respond quickly to changing requirements without excessive rework.

5. How is plan driven development different from agile development ?

a) Outputs are decided through a process of negotiation during the software development process

b) Specification, design, implementation and testing are interleaved

c) Iteration occurs within activities

d) All of the mentioned

[View Answer](#)

Answer:c

Explanation: A plan-driven approach to software engineering is based around separate development stages with the outputs to be produced at each of these stages planned in advance.

6. How many phases are there in Scrum ?

a) Two

b) Three

c) Four

d) Scrum is an agile method which means it does not have phases

[View Answer](#)

Answer:b

Explanation: There are three phases in Scrum. The initial phase is an outline planning phase followed by a series of sprint cycles and project closure phase.

7. Agile methods seem to work best when team members have a relatively high skill level.

a) True

b) False

[View Answer](#)

Answer:a

Explanation: None.

8. Which of the following does not apply to agility to a software process?

a) Uses incremental product delivery strategy

b) Only essential work products are produced

c) Eliminate the use of project planning and testing

d) All of the mentioned

[View Answer](#)

Answer:c

Explanation: Testing is a major part of each software development process which can't be avoided.

9. Which three framework activities are present in Adaptive Software Development(ASD) ?

- a) analysis, design, coding
- b) requirements gathering, adaptive cycle planning, iterative development
- c) speculation, collaboration, learning
- d) all of the mentioned

[View Answer](#)

Answer:c

Explanation: None.

10. In agile development it is more important to build software that meets the customers' needs today than worry about features that might be needed in the future.

- a) True
- b) False

[View Answer](#)

Answer:a

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Extreme Programming”.

1. Incremental development in Extreme Programming (XP) is supported through a system release once every month.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Incremental development is supported through small, frequent system releases.

2. In XP, as soon as the work on a task is complete, it is integrated into the whole system.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: XP follows a continuous integration approach. After any such integration, all the unit tests in the system must pass.

3. In XP Increments are delivered to customers every _____ weeks.

- a) One
- b) Two
- c) Three
- d) Four

[View Answer](#)

Answer: b

Explanation: Extreme Programming (XP) takes an ‘extreme’ approach to iterative

development. New versions may be built several times per day, hence delivering the increment for approval every 2nd week after testing the new version.

4. User requirements are expressed as _____ in Extreme Programming.

- a) implementation tasks
- b) functionalities
- c) scenarios
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: User requirements are expressed as scenarios or user stories. These are written on cards and the development team break them down into implementation tasks. These tasks are the basis of schedule and cost estimates.

5. Is a customer involved in test development and validation in XP ?

- a) Yes
- b) No
- c) It may vary from Customer to Customer
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: The role of the customer in the testing process is to help develop acceptance tests for the stories that are to be implemented in the next release of the system. However, people adopting the customer role have limited time available and so cannot work full-time with the development team. They may feel that providing the requirements was enough of a contribution and so may be reluctant to get involved in the testing process.

6. Programmers prefer programming to testing and sometimes they take shortcuts when writing tests. For example, they may write incomplete tests that do not check for all possible exceptions that may occur.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: In XP Some tests can be very difficult to write incrementally. For example, in a complex user interface, it is often difficult to write unit tests for the code that implements the 'display logic' and workflow between screens.

7. Tests are automated in Extreme Programming.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Automated test harnesses are used to run all component tests each time that a new release is built.

8. In XP an automated unit test framework is used to write tests for a new piece of functionality before that functionality itself is implemented.

a) True

b) False

[View Answer](#)

Answer: a

Explanation: XP follows Test-first development approach.

9. Developers work individually on a release and they compare their results with other developers before forwarding that release to customers.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: XP follows the principle of pair programming which means developers work in pairs, checking each other's work and providing the support to always do a good job.

10. Which four framework activities are found in the Extreme Programming(XP) ?

a) analysis, design, coding, testing

b) planning, analysis, design, coding

c) planning, design, coding, testing

d) planning, analysis, coding, testing

[View Answer](#)

Answer: c

Explanation: XP involves the mentioned four activities, and in the same in order.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Engineering”.

1. What are the types of requirements ?

a) Availability

b) Reliability

c) Usability

d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the mentioned traits are beneficial for an effective product to be developed.

2. Select the developer-specific requirement ?

a) Portability

b) Maintainability

c) Availability

d) Both Portability and Maintainability

[View Answer](#)

Answer: d

Explanation: Availability is user specific requirement.

3. Which one of the following is not a step of requirement engineering?

a) elicitation

b) design

- c) analysis
- d) documentation

[View Answer](#)

Answer: b

Explanation: Requirement Elicitation, Requirement Analysis, Requirement Documentation and Requirement Review are the four crucial process steps of requirement engineering. Design is in itself a different phase of Software Engineering.

4. FAST stands for

- a) Functional Application Specification Technique
- b) Fast Application Specification Technique
- c) Facilitated Application Specification Technique
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

5. QFD stands for

- a) quality function design
- b) quality function development
- c) quality function deployment
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

6. A Use-case actor is always a person having a role that different people may play.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Use-case Actor is anything that needs to interact with the system, be it a person or another (external) system.

7. The user system requirements are the parts of which document ?

- a) SDD
- b) SRS
- c) DDD
- d) SRD

[View Answer](#)

Answer: b

Explanation: Software requirements specification (SRS), is a complete description of the behaviour of a system to be developed and may include a set of use cases that describe interactions the users will have with the software.

8. A stakeholder is anyone who will purchase the completed software system under development.

- a) True

b) False

[View Answer](#)

Answer: b

Explanation: Stakeholders are anyone who has an interest in the project. Project stakeholders are individuals and organizations that are actively involved in the project, or whose interests may be affected as a result of project execution or project completion.

9. Conflicting requirements are common in Requirement Engineering, with each client proposing his or her version is the right one.

a) True

b) False

[View Answer](#)

Answer: a

Explanation: This situation is seen in every field of work as each professional has his/her way of looking onto things & would argue to get his/her point approved.

10. Which is one of the most important stakeholder from the following ?

- a) Entry level personnel
- b) Middle level stakeholder
- c) Managers
- d) Users of the software

[View Answer](#)

Answer: d

Explanation: Users are always the most important stakeholders. After all, without users or customers, what's the point of being in business?.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Functional and Non-Functional Requirements”.

1. Which one of the following is a functional requirement ?

- a) Maintainability
- b) Portability
- c) Robustness
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: All are non-functional requirements representing quality of the system. Functional requirements describe what the software has to do.

2. Which one of the following is a requirement that fits in a developer’s module ?

- a) Availability
- b) Testability
- c) Usability
- d) Flexibility

[View Answer](#)

Answer: b

Explanation: A developer needs to test his product before launching it into the market.

3. "Consider a system where, a heat sensor detects an intrusion and alerts the security company." What kind of a requirement the system is providing ?

- a) Functional
- b) Non-Functional
- c) Known Requirement
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Functional requirements describe what the software has to do.

4. Which of the following statements explains portability in non-functional requirements?

- a) It is a degree to which software running on one platform can easily be converted to run on another platform
- b) It cannot be enhanced by using languages, OS' and tools that are universally available and standardized
- c) The ability of the system to behave consistently in a user-acceptable manner when operating within the environment for which the system was intended
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Option c is termed as reliability and option e refers to efficiency.

5. Functional requirements capture the intended behavior of the system.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: The behavior of functional requirements may be expressed as services, tasks or functions the system is required to perform.

6. Choose the incorrect statement with respect to Non-Functional Requirement(NFR).

- a) Product-oriented Approach – Focus on system (or software) quality
- b) Process-oriented Approach – Focus on how NFRs can be used in the design process
- c) Quantitative Approach – Find measurable scales for the functionality attributes
- d) Qualitative Approach – Study various relationships between quality goals

[View Answer](#)

Answer: c

Explanation: Quantitative Approaches in NFRs are used to find measurable scales for the quality attributes like efficiency, flexibility, integrity, usability etc.

7. How many classification schemes have been developed for NFRs ?

- a) Two
- b) Three
- c) Four
- d) Five

[View Answer](#)

Answer: d

Explanation: Software Quality Tree [Boehm 1976], Roman [IEEE Computer 1985], Process-

Product-External considerations [Sommerville 1992], Mc Call's NFR list and Dimensions of Quality–Components of FURPS+ are the five classification schemes for NFRs.

8. According to components of FURPS+, which of the following does not belong to S ?

- a) Testability
- b) Speed Efficiency
- c) Serviceability
- d) Installability

[View Answer](#)

Answer: b

Explanation: Speed Efficiency belong to Performance (P) in FURPS+ .

9. Does software wear & tear by decomposition ?

- a) Yes
- b) No

[View Answer](#)

Answer: b

Explanation: Unlike hardware, software is reliable.

10. What are the four dimensions of Dependability ?

- a) Usability, Reliability, Security, Flexibility
- b) Availability, Reliability, Maintainability, Security
- c) Availability, Reliability, Security, Safety
- d) Security, Safety, Testability, Usability

[View Answer](#)

Answer: c

Explanation: All the traits of option c sync with dependability.

11. Choose the correct statement on how NFRs integrates with Rational Unified Process ?

- a) System responds within 4 seconds on average to local user requests and changes in the environment
- b) System responds within 4 seconds on average to remote user requests and changes in the environment
- c) All of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: System response to a local user is 2 seconds on average.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Elicitation”.

1. What is the first step of requirement elicitation ?

- a) Identifying Stakeholder
- b) Listing out Requirements
- c) Requirements Gathering

d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Stakeholders are the ones who will invest in and use the product, so it's essential to chalk out stakeholders first.

2. Starting from least to most important, choose the order of stakeholder.

- i. Managers
 - ii. Entry level Personnel
 - iii. Users
 - iv. Middle level stakeholder
- a) i, ii, iv, iii
b) i, ii, iii, iv
c) ii, iv, i, iii
d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Users are your customers, they will be using your product, thus making them most important of all.

3. Arrange the tasks involved in requirements elicitation in an appropriate manner.

- i. Consolidation
 - ii. Prioritization
 - iii. Requirements Gathering
 - iv. Evaluation
- a) iii, i, ii, iv
b) iii, iv, ii, i
c) iii, ii, iv, i
d) ii, iii, iv, i

[View Answer](#)

Answer: b

Explanation: Requirements gathering captures viewpoint from different users followed by evaluation of those viewpoints. Now comes the task of checking the relative importance of the requirements and finally to consolidate or bind together the information collected.

4. What are the types of requirement in Quality Function Deployment(QFD) ?

- a) Known, Unknown, Undreamed
- b) User, Developer
- c) Functional, Non-Functional
- d) Normal, Expected, Exciting

[View Answer](#)

Answer: d

Explanation: According to QFD, Normal, Expected and Exciting requirements maximize customer satisfaction from the Software Engineering Process.

5. What kind of approach was introduced for elicitation and modelling to give a functional view of the system ?

- a) Object Oriented Design (by Booch)

- b) Use Cases (by Jacobson)
- c) Fusion (by Coleman)
- d) Object Modeling Technique (by Rumbaugh)

[View Answer](#)

Answer: b

Explanation: Use Case captures who does what with the system, for what purpose, without dealing with system internals.

6. What are the kinds of actors used in OOSE ?

- a) Primary
- b) Secondary
- c) Ternary
- d) Both Primary and Secondary

[View Answer](#)

Answer: d

Explanation: A primary actor is one having a goal requiring the assistance of the system whereas, a secondary actor is one from which system needs assistance. There is no such thing as ternary actor in Software Engineering.

7. Why is Requirements Elicitation a difficult task ?

- a) Problem of scope
- b) Problem of understanding
- c) Problem of volatility
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Users specify unnecessary technical detail that may confuse, rather than clarify overall system objectives. Also, the customers/users are not completely sure of what is needed, have a poor understanding of the capabilities and limitations of their computing environment and they do not understand that the requirements change over time.

8. What requirement gathering method developed at IBM in 1970s is used for managing requirement elicitation ?

- a) JAD
- b) Traceability
- c) FAST
- d) Both JAD and Traceability

[View Answer](#)

Answer: d

Explanation: Joint application design (JAD) is a process used to collect business requirements while developing new information systems for a company. Requirements traceability is concerned with documenting the life of a requirement and providing bi-directional traceability between various associated requirements.

9. Requirements elicitation is a cyclic process

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Requirements traceability provides bi-directional traceability between various associated requirements.

10. How many Scenarios are there in elicitation activities ?

- a) One
- b) Two
- c) Three
- d) Four

[View Answer](#)

Answer: d

Explanation: As-is Scenario, Visionary Scenario, Evaluation Scenario and Training Scenario are the four scenarios in requirement elicitation activities.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Elicitation Techniques -1”.

1. Which of the following elicitation techniques is a viewpoint based method?

- a) FODA
- b) QFD
- c) CORE
- d) IBIS

[View Answer](#)

Answer: c

Explanation: Controlled Requirements Expression(CORE) says that any system can be viewed from a number of view points and that a complete picture of system requirements can only emerge by putting together the various viewpoints.

2. _____ and _____ are the two view points discussed in Controlled Requirements Expression (CORE).

- a) Functional, Non-Functional
- b) User, Developer
- c) Known, Unknown
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: The CORE sessions includes the discussion of functional and non-functional requirements.

3. What is the major drawback of CORE ?

- a) Requirements are comprehensive
- b) NFRs are not given enough importance
- c) Role of analyst is passive
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: In CORE the requirement specification are put together by all users, customers and analysts, so a passive analyst will not get the requirements properly.

4. Choose a framework that corresponds to Issue Based Information System (IBIS).

- a) Idea -> Question -> Argument
- b) Question -> Idea -> Argument
- c) Issue -> Position -> Justification
- d) Both Question -> Idea -> Argument and Issue -> Position -> Justification

[View Answer](#)

Answer: d

Explanation: IBIS is a simple and non-intrusive method that provides a framework for resolving issues and gathering requirements.

5. How is CORE different from IBIS ?

- a) Iterative in nature
- b) Redundancies are removed
- c) It is simple and an easier method to use
- d) Consistency problems are addressed in CORE

[View Answer](#)

Answer: d

Explanation: Preliminary data collection is done in CORE to get some broad level data on each view point to structure the view point and to check consistency from within and outside the viewpoints.

6. Which of the following Requirement Elicitation Techniques removes the poor understanding of application domain and lack of common terminology between the users and the analysts ?

- a) FODA
- b) CORE
- c) IBIS
- d) Prototyping

[View Answer](#)

Answer: a

Explanation: Feature Oriented Domain Analysis (FODA) is defined as the process of identifying, collecting, organizing and representing relevant information in a domain .

7. How many steps are involved in Feature Oriented Domain Analysis (FODA) ?

- a) Two
- b) Three
- c) Four
- d) Five

[View Answer](#)

Answer: b

Explanation: Context Analysis, Domain Modeling and Architecture Modeling are the three steps involved in Feature Oriented Domain Analysis (FODA).

8. IBIS is a more structured approach than CORE.

- a) True

b) False

[View Answer](#)

Answer: a

Explanation: IBIS is a more structured approach as it captures information which is consistent and important. On the other hand CORE gives importance to every view point even if it is obsolete.

9. Which one of the following is not an actor in JAD sessions ?

- a) User
- b) Tester
- c) Scribe
- d) Sponsor

[View Answer](#)

Answer: b

Explanation: A Tester's role is seen in after coding phase rather than in elicitation phase.

10. What of the following is not an output of a JAD session ?

- a) Context Diagrams
- b) DFDs
- c) ER model
- d) UML diagrams

[View Answer](#)

Answer: d

Explanation: Unified Modeling Language (UML) diagrams are constructed during the design phase of the SDLC.

This set of Software Engineering Interview Questions and Answers for freshers focuses on "Requirement Elicitation Techniques – 2".

1. How is brainstorming different from JAD ? Brainstorming sessions

- a) last for about 2-3 hours
- b) last for about 2-3 days
- c) cover the technology used for the development
- d) all of the mentioned

[View Answer](#)

Answer: a

Explanation: Brainstorming is a group or individual creativity technique by which efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its member(s). The idea is to quickly reach to an approved solution ASAP.

2. How is throwaway prototype different from evolutionary prototype ?

- a) It involves successive steps
- b) It involves just one task
- c) The prototype is built with the idea that it will eventually be converted into final system
- d) It has a shorter development time

[View Answer](#)

Answer: b

Explanation: Except option b all other options represent the characteristics of an evolutionary prototype.

3. Keeping the requirements of QFD in mind which of the following is not an example of an Expected Requirement ?

- a) Ease of software installation
- b) Overall operational correctness and reliability
- c) Specific system functions
- d) Quality graphical display

[View Answer](#)

Answer: c

Explanation: Expected requirements are so fundamental that a customer does not explicitly state them. System functions comes under the category of Normal requirements in QFD which is compulsory to be defined, hence is not an expected requirement.

4. QFD works best if it has management commitment.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: QFD involves heavy investment in initial stages, thus bounding the management to provide appropriate funding for the development process .

5. Which of the following Requirement Elicitation Techniques is applicable to messy, changing and ill-defined problem situations ?

- a) Quality Function Deployment (QFD)
- b) Prototyping
- c) Soft Systems Methodology (SSM)
- d) Controlled Requirements Expression (CORE)

[View Answer](#)

Answer: c

Explanation: Soft systems methodology (SSM) is a systemic approach for tackling real-world problematic situations. It is a common misunderstanding that SSM is a methodology for dealing solely with ‘soft problems’ (problems which involve psychological, social, and cultural elements). SSM does not differentiate between ‘soft’ and ‘hard’ problems, it merely provides a different way of dealing with situations perceived as problematic.

6. To ensure that a given root definition is rigorous and comprehensive, The Lancaster team proposed several criteria that are summarized in the mnemonic CATWOE in Soft Systems Methodology (SSM). Which of the following alphabet is representing an entirely different meaning to SSM ?

- a) C – Customer
- b) A – Actor
- c) T – Transformation
- d) E – ER Model

[View Answer](#)

Answer: d

Explanation: 'E' in CATWOE stands for Environmental constraints.

7. Choose the disadvantage of using SSM as an elicitation technique.
- a) It incorporates human element into design
 - b) SSM is in its infant stage
 - c) SSM is suitable for new systems
 - d) Standard methodologies like Role Exploration, Issue Resolution and Reorganization support SSM

[View Answer](#)

Answer: b

Explanation: SSM is still in its infancy. It is evolving and its industrial usage is low.

8. How many phases are there in Brainstorming ?

- a) Two
- b) Three
- c) Four
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Preparation, Execution and Follow up are the three phases to be achieved for a successful brainstorming session.

9. Who controls the FAST (Facilitated Application Specification Techniques) meeting ?

- a) System Analyst
- b) Scribe
- c) Facilitator
- d) Manager

[View Answer](#)

Answer: c

Explanation: A Facilitator (a customer/developer/an outsider) controls the FAST meeting. His role is to ensure that the meeting is productive.

10. Arrange the steps in order to represent the conducting of Wideband Delphi Technique.

- i. Conduct a group discussion
- ii. Conduct another group discussion
- iii. Present experts with a problem
- iv. Collect expert opinion anonymously
- v. Iterate until consensus is reached
- vi. Feedback a summary of result to each expert

- a) i, iii, ii, iv, v, vi
- b) iii, i, ii, iv, v, vi
- c) i, ii, iii, iv, vi, v
- d) iii, i, iv, vi, ii, v

[View Answer](#)

Answer: d

Explanation: The sequence represents the working steps of a Wideband Delphi technique .

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Analysis”.

1. Which of the following is not a diagram studied in Requirement Analysis ?

- a) Use Cases
- b) Entity Relationship Diagram
- c) State Transition Diagram
- d) Activity Diagram

[View Answer](#)

Answer: d

Explanation: Activity Diagram comes under the design phase of SDLC.

2. How many feasibility studies is conducted in Requirement Analysis ?

- a) Two
- b) Three
- c) Four
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Economic feasibility (cost/benefit analysis), Technical feasibility (hardware/software/people, etc.) and Legal feasibility studies are done in Requirement Analysis.

3. How many phases are there in Requirement Analysis ?

- a) Three
- b) Four
- c) Five
- d) Six

[View Answer](#)

Answer: c

Explanation: Problem Recognition, Evaluation and Synthesis (focus is on what not how), Modeling, Specification and Review are the five phases.

4. Traceability is not considered in Requirement Analysis.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Requirements traceability is concerned with documenting the life of a requirement and providing bi-directional traceability between various associated requirements, hence requirements must be traceable.

5. Requirements analysis is critical to the success of a development project.

- a) True
- b) False
- c) Depends upon the size of project
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Requirements must be actionable, measurable, testable, related to identified business needs or opportunities, and defined to a level of detail sufficient for system design.

6. _____ and _____ are the two issues of Requirement Analysis.

- a) Performance, Design
- b) Stakeholder, Developer
- c) Functional, Non-Functional
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Option a and c are the types of requirements and not the issues of requirement analysis..

7. The requirements that result from requirements analysis are typically expressed from one of three perspectives or views. What is that perspective or view ?

- a) Developer
- b) User
- c) Non-Functional
- d) Physical

[View Answer](#)

Answer: d

Explanation: The perspectives or views have been described as the Operational, Functional, and Physical views. All three are necessary and must be coordinated to fully understand the customers' needs and objectives.

8. Requirements Analysis is an Iterative Process.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Requirements analysis is conducted iteratively with functional analysis to optimize performance requirements for identified functions, and to verify that synthesized solutions can satisfy customer requirements.

9. Coad and Yourdon suggested _____ selection characteristics that should be used as an analyst considers each potential object for inclusion in the requirement analysis model.

- a) Three
- b) Four
- c) Five
- d) Six

[View Answer](#)

Answer: d

Explanation: Retained information, Needed services, Multiple attributes, Common attributes, Common operations and Essential requirements are the six criterion mentioned by Coad and Yourdon.

10. Requirements should specify ‘what’ but not ‘how’.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: ‘What’ refers to a system’s purpose, while ‘How’ refers to a system’s structure and behavior.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Documentation”.

1. Which of the following property does not correspond to a good Software Requirements Specification (SRS) ?

- a) Verifiable
- b) Ambiguous
- c) Complete
- d) Traceable

[View Answer](#)

Answer: b

Explanation: The SRS should be unambiguous in nature which means each sentence in SRS should have a unique interpretation.

2. Which of the following property of SRS is depicted by the statement : “Conformity to a standard is maintained” ?

- a) Correct
- b) Complete
- c) Consistent
- d) Modifiable

[View Answer](#)

Answer: b

Explanation: The SRS is complete full labeling and referencing of all figures, tables etc. and definition of all terms and units of measure is defined.

3. The SRS is said to be *consistent* if and only if

- a) its structure and style are such that any changes to the requirements can be made easily while retaining the style and structure
- b) every requirement stated therein is one that the software shall meet
- c) every requirement stated therein is verifiable
- d) no subset of individual requirements described in it conflict with each other

[View Answer](#)

Answer: d

Explanation: Real world object may conflict with each other for example one requirement says that all lights should be red while the other states that all lights should green.

4. Which of the following statements about SRS is/are true ?

- i. SRS is written by customer
- ii. SRS is written by a developer

- iii. SRS serves as a contract between customer and developer
- a) Only i is true
 - b) Both ii and iii are true
 - c) All are true
 - d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: The SRS acts as a communication media between the Customer, Analyst, system developers, maintainers etc. Thus it is a contract between Purchaser and Supplier. It is essentially written by a developer on the basis of customer' need but in some cases it may be written by a customer as well.

5. The SRS document is also known as _____ specification.
- a) black-box
 - b) white-box
 - c) grey-box
 - d) none of the mentioned

[View Answer](#)

Answer: a

Explanation: The system is considered as a black box whose internal details are not known that is, only its visible external (input/output) behavior is documented.

6. Which of the following is included in SRS ?
- a) Cost
 - b) Design Constraints
 - c) Staffing
 - d) Delivery Schedule

[View Answer](#)

Answer: b

Explanation: Design constraints include standards to be incorporated in the software, implementation language, resource limits, operating environment etc.

7. Which of the following is not included in SRS ?
- a) Performance
 - b) Functionality
 - c) Design solutions
 - d) External Interfaces

[View Answer](#)

Answer: c

Explanation: The SRS document concentrates on:"what needs to be done" and carefully avoids the solution ("how to do") aspects.

8. Arrange the given sequence to form a SRS Prototype outline as per IEEE SRS Standard.
- i. General description
 - ii. Introduction
 - iii. Index
 - iv. Appendices
 - v. Specific Requirements

- a) iii, i, ii,v, iv
- b) iii, ii, i, v, iv
- c) ii, i, v, iv, iii
- d) iii, i, ii

[View Answer](#)

Answer: c

Explanation: The given sequence correctly resemble a standard SRS prototype as per IEEE.

9. Consider the following Statement: "The output of a program shall be given within 10 secs of event X 10% of the time."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Verifiable
- c) Non-verifiable
- d) Correct

[View Answer](#)

Answer: b

Explanation: An SRS is verifiable, if and only if, every requirement stated therein is verifiable. Here the given condition can be verified during testing phase.

10. Consider the following Statement: "The data set will contain an end of file character."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Non-verifiable
- c) Correct
- d) Ambiguous

[View Answer](#)

Answer: b

Explanation: An SRS is unambiguous if and only if, every requirement stated therein has only one unique interpretation. The given statement does not answer the question: "which data set will have an end of file character ?".

11. Consider the following Statement: "The product should have a good human interface."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Non-Verifiable
- c) Correct
- d) Ambiguous

[View Answer](#)

Answer: b

Explanation: An SRS is verifiable, if and only if, every requirement stated therein is verifiable. The statement can only be answered on completion of the software and customer evaluation but still human interface will vary from person to person.

12. Narrative essay is one of the best types of specification document ?

- a) True
- b) False

[View Answer](#)

Answer:b

Explanation: Narrative essay is one of the worst types of specification document as it is difficult to change, difficult to be precise, has scope for contradictions, etc.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Management”.

1. Which two requirements are given priority during Requirement Management of a product ?

- a) User and Developer
- b) Functional and Non-functional
- c) Enduring and Volatile
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Enduring requirements are core requirements & are related to main activity of the organization while volatile requirements are likely to change during software development life cycle or after delivery of the product.

2. Considering the example of issue/return of a book, cataloging etc. in a library management.What type of management requirement is being depicted here?

- a) Enduring
- b) Volatile
- c) Both Enduring & Volatile
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: For library management system issue/return of a book, cataloging etc. are core activities and are stable for any system.

3. Why is Requirements Management Important ? It is due to the changes

- a) to the environment
- b) in technology
- c) in customer's expectations
- d) in all of the mentioned.

[View Answer](#)

Answer: d

Explanation: Systems continue to be built as the advancement of new products being launched in the market and so does the market changes, the technology and in turn customer's expectation.

4. Requirements Management is a prerequisite for Quality-Oriented Development.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Quality makes no sense without reference to requirements, which means quality-oriented development is requirements-driven development, thus requirements management is a prerequisite for quality-oriented development.

5. Requirements traceability is one of the most important part requirement management. It may also be referred to as the heart of requirement management.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Requirements traceability refers to the ability to describe and follow the life of a requirement in both forwards and backwards direction. Requirements can be traced from its origins, through its development and specification, to its subsequent deployment and use, and through periods of ongoing refinement and iteration in any of these phases.

6. Requirements Management has a high initial start-up cost but does not need ongoing funding throughout a project.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Requirements Management needs continued funding throughout a project. Project funding is often limited at the onset of a project, restricted to those aspects of the project which are tangible and visible, and subsequently allocated in a phase-by-phase manner.

7. Which of the following is not a Requirement Management workbench tool ?

- a) RTM
- b) DOORS
- c) Rational Suite
- d) RDD 100

[View Answer](#)

Answer: c

Explanation: Rational Suite is an environment tool for requirement management.

8. Which of the following is a requirement management activity ?

- a) Investigation
- b) Design
- c) Construction and Test
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options are the activities of requirement management.

9. What functionality of Requirement Management Tool (RMT) is depicted by the statement: “the tool should be able to automatically detect relations between artifacts. For example information retrieval techniques, monitoring of change history, naming schemas or model transformations.”

- a) Automatic Link Detection
- b) Documentation Support
- c) Graphical Representation
- d) Automatic Link Creation and Change

[View Answer](#)

Answer: a

Explanation: DOORS is one such tool that supports Automatic Link Detection.

10. According to a statistical report: “over 30% of all software projects are cancelled before completion and over 70% of the remainder fail to deliver expected features”. What must be the reason for such a situation ?

- a) Poor change management
- b) Poor requirements management
- c) Poor quality control
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Fundamental to the problem mentioned in the statistical report is poor requirements management. Option a and c are its sub parts.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “System Modelling – 1”.

1. The Unified Modeling Language (UML) has become an effective standard for software modelling. How many different notations does it have ?

- a) Three
- b) Four
- c) Six
- d) Nine

[View Answer](#)

Answer: d

Explanation: The different notations of UML includes the nine UML diagrams namely class, object, sequence, collaboration, activity, state-chart, component, deployment and use case diagrams.

2. Which model in system modelling depicts the dynamic behaviour of the system ?

- a) Context Model
- b) Behavioral Model
- c) Data Model
- d) Object Model

[View Answer](#)

Answer: b

Explanation: Behavioral models are used to describe the dynamic behavior of an executing system. This can be modeled from the perspective of the data processed by the system or by the events that stimulate responses from a system.

3. Which model in system modelling depicts the static nature of the system ?

- a) Behavioral Model
- b) Context Model
- c) Data Model
- d) Structural Model

[View Answer](#)

Answer: d

Explanation: Structural models show the organization and architecture of a system. These are used to define the static structure of classes in a system and their associations.

4. Which perspective in system modelling shows the system or data architecture.

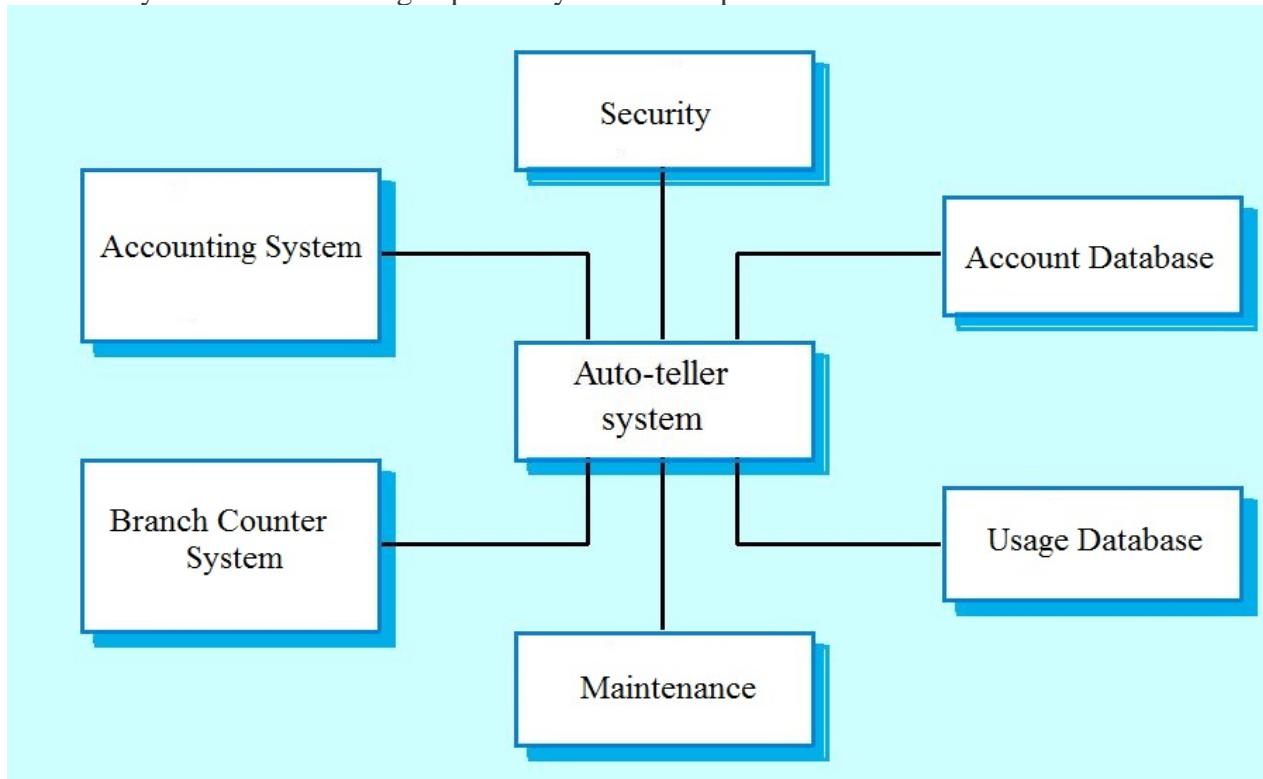
- a) Structural perspective
- b) Behavioral perspective
- c) External perspective
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Structural perspective is used to define the static structure of classes in a system and their associations.

5. Which system model is being depicted by the ATM operations shown below:



- a) Structural model
- b) Context model
- c) Behavioral model
- d) Interaction model

[View Answer](#)

Answer: b

Explanation: Context models are used to illustrate the operational context of a system. They show what lies outside the system boundaries.

6. Activity diagrams are used to model the processing of data.

- a) True

b) False

[View Answer](#)

Answer: a

Explanation: The statement mentioned is true and each activity represents one process step.

7. Model-driven engineering is just a theoretical concept. It cannot be converted into a working/executable code.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Model-driven engineering is an approach to software development in which a system is represented as a set of models that can be automatically transformed to executable code.

8. The UML supports event-based modeling using _____ diagrams.

a) Deployment

b) Collaboration

c) State chart

d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: State diagrams show system states and events that cause transitions from one state to another.

This set of Software Engineering Questions and Answers for Experienced people focuses on “System Modelling – 2”.

1. Which of the following diagram is not supported by UML considering Data-driven modeling ?

a) Activity

b) Data Flow Diagram (DFD)

c) State Chart

d) Component

[View Answer](#)

Answer: b

Explanation: DFDs focus on system functions and do not recognize system objects.

2. _____ allows us to infer that different members of classes have some common characteristics.

a) Realization

b) Aggregation

c) Generalization

d) dependency

[View Answer](#)

Answer: c

Explanation: Generalization is an everyday technique that we use to manage complexity. This means that common information will be maintained in one place only.

3. One creates Behavioral models of a system when you are discussing and designing the system architecture.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Structural models of software display the organization of a system in terms of the components that make up that system and their relationships.

4. _____ & _____ diagrams of UML represent Interaction modeling.

a) Use Case, Sequence

b) Class, Object

c) Activity, State Chart

d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Use case modeling is mostly used to model interactions between a system and external actors. Sequence diagrams are used to model interactions between system components, although external agents may also be included.

5. Which level of Entity Relationship Diagram (ERD) models all entities and relationships ?

a) Level 1

b) Level 2

c) Level 3

d) Level 4

[View Answer](#)

Answer: b

Explanation: Level 1 ERD models all data objects (entities) and their “connections” to one another while Level 3 ERD models all entities, relationships, and the attributes that provide further depth. Thus option b is correct.

6. _____ classes are used to create the interface that the user sees and interacts with as the software is used.

a) Controller

b) Entity

c) Boundary

d) Business

[View Answer](#)

Answer: c

Explanation: The answer is self-explanatory.

7. Which of the following statement is incorrect regarding the Class-responsibility-collaborator (CRC) modeling ?

a) All use-case scenarios (and corresponding use-case diagrams) are organized into categories in CRC modelling

b) The review leader reads the use-case deliberately

c) Only developers in the review (of the CRC model) are given a subset of the CRC model index cards

d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: All participants in the review (of the CRC model) are given a subset of the CRC model index cards.

8. A data object can encapsulates processes and operation as well.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: A data object encapsulates data only. There is no reference within a data object to operations that act on the data.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Evolution”.

1. The two dimensions of spiral model are

a) diagonal, angular

b) radial, perpendicular

c) radial, angular

d) diagonal, perpendicular

[View Answer](#)

Answer: c

Explanation: The radial dimension depicts the cumulative costs and the angular dimension depicts the progress made in completing each cycle. Each loop of the spiral model represents a phase.

2. The Incremental Model is combination of elements of

a) Build & FIX Model & Waterfall Model

b) Linear Model & RAD Model

c) Linear Model & Prototyping Model

d) Waterfall Model & RAD Model

[View Answer](#)

Answer: c

Explanation: Each linear sequence produces a deliverable “increment” of the software system, particularly needed in case of quick delivery of a limited functionality system..

3. Model preferred to create client/server applications is

a) WINWIN Spiral Model

b) Spiral Model

c) Concurrent Model

d) Incremental Model

[View Answer](#)

Answer: c

Explanation: In case of client/server applications, the concurrent process model specifies activities in two dimensions: a system dimension and a component dimension. Hence

Concurrency is achieved by these two activities occurring simultaneously and can be modeled using the state-oriented approach.

4. Identify the correct statement with respect to Evolutionary development:

- a) Evolutionary development usually has two flavors; exploratory development, and throw-away prototyping
- b) Very large projects are usually done using evolutionary development based approach
- c) It facilitates easy project management, through the high volume of documentation it generates
- d) Sometimes the construction of a throw-away prototype is not followed by a re-implementation of the software system using a more structured approach

[View Answer](#)

Answer: a

Explanation: Evolutionary development usually has two flavors; exploratory development, and throw-away prototyping.

5. Spiral model was developed by

- a) Victor Bisili
- b) Berry Boehm
- c) Bev Littlewood
- d) Roger Pressman

[View Answer](#)

Answer: b

Explanation: Berry Boehm in 1986 in his Article “A spiral model of software development and enhancement”.

6. Software evolution does not comprises:

- a) Development activities
- b) Negotiating with client
- c) Maintenance activities
- d) Re-engineering activities

[View Answer](#)

Answer: b

Explanation: Software evolution refers to the study and management of the process of making changes to software over time. Thus it comprises rest three options.

7. Processes for evolving a software product depend on:

- a) Type of software to be maintained
- b) Development processes used
- c) Skills and experience of the people involved
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Processes used for software evolution depend on all these factors.

8. Which technique is applied to ensure the continued evolution of legacy systems ?

- a) Forward engineering
- b) Reverse Engineering
- c) Reengineering

d) Reverse Engineering and Reengineering

[View Answer](#)

Answer: d

Explanation: Processes used for software evolution depend rely on these two techniques.

9. Program modularization and Source code translation are the activities of _____

- a) Forward engineering
- b) Reverse Engineering
- c) Reengineering
- d) Reverse Engineering and Reengineering

[View Answer](#)

Answer: c

Explanation: Reengineering is the examination and alteration of a subject system to reconstitute it in a new form and the subsequent implementation of the new form.

10. Reverse engineering is the last activity in a reengineering project.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Reverse engineering is often the initial activity in a reengineering project.

11. The cost of re-engineering is often significantly less than the costs of developing new software.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: There is a high risk in new software development. There may be development problems, staffing problems and specification problems, thereby increasing the cost.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Design”.

1. Which is the first step in the software development life cycle ?

- a) Analysis
- b) Design
- c) Problem/Opportunity Identification
- d) Development and Documentation

[View Answer](#)

Answer: c

Explanation: None.

2. Which tool is use for structured designing ?

- a) Program flowchart
- b) Structure chart
- c) Data-flow diagram

d) Module

[View Answer](#)

Answer: b

Explanation: A Structure Chart (SC) in software engineering and organizational theory, is a chart which shows the breakdown of a system to its lowest manageable levels.

3. A step by step instruction used to solve a problem is known as

a) Sequential structure

b) A List

c) A plan

d) An Algorithm

[View Answer](#)

Answer: d

Explanation: None.

4. In the Analysis phase, the development of the _____ occurs, which is a clear statement of the goals and objectives of the project.

a) documentation

b) flowchart

c) program specification

d) design

[View Answer](#)

Answer: c

Explanation: Program specification is the definition of what a computer program is expected to do.

5. Actual programming of software code is done during the _____ step in the SDLC.

a) Maintenance and Evaluation

b) Design

c) Analysis

d) Development and Documentation

[View Answer](#)

Answer: d

Explanation: The developer has to find in the technical documentation enough information to start coding.

6. Who designs and implement database structures.

a) Programmers

b) Project managers

c) Technical writers

d) Database administrators

[View Answer](#)

Answer: d

Explanation: The role of database administrators includes the development and design of database strategies, system monitoring and improving database performance and capacity, and planning for future expansion requirements.

7. _____ is the process of translating a task into a series of commands that a computer will use to perform that task.

- a) Project design
- b) Installation
- c) Systems analysis
- d) Programming

[View Answer](#)

Answer: d

Explanation: None.

8. Debugging is:

- a) creating program code
- b) finding and correcting errors in the program code
- c) identifying the task to be computerized
- d) creating the algorithm

[View Answer](#)

Answer: b

Explanation: Debugging is a methodical process of finding and reducing the number of bugs, or defects, in a computer program or a piece of electronic hardware, thus making it behave as expected.

9. In Design phase, which is the primary area of concern ?

- a) Architecture
- b) Data
- c) Interface
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Part of the design phase is to create structural and behavioral models of the system which is covered by architecture, data and the interface of the product.

10. The importance of software design can be summarized in a single word which is:

- a) Efficiency
- b) Accuracy
- c) Quality
- d) Complexity

[View Answer](#)

Answer: c

Explanation: Software functional quality reflects how well it complies with or conforms to a given design, based on functional requirements or specifications.

11. Cohesion is a qualitative indication of the degree to which a module

- a) can be written more compactly
- b) focuses on just one thing
- c) is able to complete its function in a timely manner
- d) is connected to other modules and the outside world

[View Answer](#)

Answer: b

Explanation: Cohesion of a single module/component is the degree to which its responsibilities form a meaningful unit.

12. Coupling is a qualitative indication of the degree to which a module

- a) can be written more compactly
- b) focuses on just one thing
- c) is able to complete its function in a timely manner
- d) is connected to other modules and the outside world

[View Answer](#)

Answer: d

Explanation: Coupling between modules/components is their degree of mutual interdependence.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Modularity in Software Design”.

1. Java packages and Fortran subroutine are examples of _____

- a) Functions
- b) Modules
- c) Classes
- d) Sub procedures

[View Answer](#)

Answer: b

Explanation: A modular system consist of well defined manageable units with well defined interfaces among the units.

2. Which of the property of software modularity is incorrect with respect to benefits software modularity?

- a) Modules are robust
- b) Module can use other modules
- c) Modules Can be separately compiled and stored in a library
- d) Modules are mostly dependent

[View Answer](#)

Answer: d

Explanation: Modularity cannot bring benefits unless the modules are autonomous or independent.

3. _____ is a measure of the degree of interdependence between modules.

- a) Cohesion
- b) Coupling
- c) None of the mentioned
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Coupling or dependency is the degree to which each program module relies on each one of the other modules.

4. Which of the following is the best type of module coupling?

- a) Control Coupling
- b) Stamp Coupling
- c) Data Coupling
- d) Content Coupling

[View Answer](#)

Answer: c

Explanation: The dependency between module A and B is said to be data coupled if their dependency is based on the fact they communicate by only passing of data.

5. Which of the following is the worst type of module coupling?

- a) Control Coupling
- b) Stamp Coupling
- c) External Coupling
- d) Content Coupling

[View Answer](#)

Answer: c

Explanation: Content coupling occurs when module A changes data of module B or when control is passed from one module to the middle of another.

6. Which of the following is the worst type of module cohesion?

- a) Logical Cohesion
- b) Temporal Cohesion
- c) Functional Cohesion
- d) Coincidental Cohesion

[View Answer](#)

Answer: d

Explanation: Coincidental cohesion exists in modules that contain instructions that have little or no relationship to one another.

7. Which of the following is the best type of module cohesion?

- a) Functional Cohesion
- b) Temporal Cohesion
- c) Functional Cohesion
- d) Sequential Cohesion

[View Answer](#)

Answer: a

Explanation: Functional Cohesion is a type of cohesion in which the tasks performed by a software module all contribute to the performance of a single function.

8. A software engineer must design the modules with the goal of high cohesion and low coupling.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: If the software is not properly modularized, a host of seemingly trivial enhancement or changes will result into death of the project.

9. In what type of coupling, the complete data structure is passed from one module to another?
- a) Control Coupling
 - b) Stamp Coupling
 - c) External Coupling
 - d) Content Coupling

[View Answer](#)

Answer: b

Explanation: None.

10. If all tasks must be executed in the same time-span, what type of cohesion is being exhibited?
- a) Functional Cohesion
 - b) Temporal Cohesion
 - c) Functional Cohesion
 - d) Sequential Cohesion

[View Answer](#)

Answer: b

Explanation: A Module exhibits temporal cohesion when it contains tasks that are related by the fact that all tasks must be executed in the same time-span.

This set of Basic Software Engineering Questions and Answers focuses on “Function Oriented Software Design”.

1. Choose the option that does not define Function Oriented Software Design.

- a) It consists of module definitions
- b) Modules represent data abstraction
- c) Modules support functional abstraction
- d) None of the mentioned

[View Answer](#)

Answer:b

Explanation: Option b defines an Object Oriented Design.

2. Which of the following is a complementary approach to function-oriented approach ?

- a) Object oriented analysis
- b) Object oriented design
- c) Structured approach
- d) Both Object oriented analysis and design

[View Answer](#)

Answer:d

Explanation: None.

3. Function-oriented design techniques starts with functional requirements specified in

- a) SDD
- b) SRS
- c) All of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer:b

Explanation: None.

4. Structured Analysis is based on the principles of

- a) Top-down decomposition approach
- b) Divide and conquer principle
- c) Graphical representation of results using DFDs
- d) All of the mentioned

[View Answer](#)

Answer:d

Explanation: None.

5. Which of the following is/are true with respect to functions ?

- a) A function such as “search-book” is represented using a circle
- b) Functions represent some activity
- c) Function symbol is known as a process symbol or a bubble in DFD
- d) All of the mentioned

[View Answer](#)

Answer:d

Explanation: All the options are correct with respect to Function Oriented Software Design.

6. Which of the following is not a use of a CASE tool ?

- a) Support structured analysis and design (SA/SD)
- b) Maintains the data dictionary
- c) Checks whether DFDs are balanced or not
- d) It complies with the available system

[View Answer](#)

Answer:d

Explanation: It takes long time to establish the system in order to comply with the available system.

7. What DFD notation is represented by the Rectangle?

- a) Transform
- b) Data Store
- c) Function
- d) None of the mentioned

[View Answer](#)

Answer:b

Explanation: None.

8. Structural decomposition is concerned with function calls.

- a) True
- b) False

[View Answer](#)

Answer:a

Explanation: Structural decomposition is concerned with developing a model of the design which shows the dynamic structure.

9. A function-oriented design focuses on the entities in the system rather than the data processing activities.

a) True

b) False

[View Answer](#)

Answer:b

Explanation: It is an object oriented design which focus on entities.

10. In DFDs, user interactions with the system is denoted by

a) Circle

b) Arrow

c) Rectangle

d) Triangle

[View Answer](#)

Answer:a

Explanation: None

This set of Software Engineering online quiz focuses on “Function Oriented Design using Structured Analysis Structured Design”.

1. SA/SD features are obtained from which of the methodologies?

a) Constantine and Yourdon methodology

b) DeMarco and Yourdon methodology

c) Gane and Sarson methodology

d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

2. Which of the following is not an activity of Structured Analysis (SA) ?

a) Functional decomposition

b) Transformation of a textual problem description into a graphic model

c) All the functions represented in the DFD are mapped to a module structure

d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: The module structure is the software architecture.

3. To arrive at a form which is suitable for implementation in some programming language is the purpose of

a) Structured Analysis (SA)

b) Structured Design (SD)

c) Detailed Design (DD)

d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

4. The results of structured analysis can be easily understood by ordinary customers.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: The results of structured analysis directly represents customer's perception of the problem and uses customer's terminology for naming different functions and data.

5. Structured Analysis is based on the principle of Bottom-Up Approach.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Structured Analysis follows uses decomposition approach.

6. The context diagram is also known as

- a) Level-0 DFD
- b) Level-1 DFD
- c) Level-2 DFD
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Context diagram captures the various entities external to the system interacting with it and data flow occurring between the system and the external entities.

7. A directed arc or line in DFD represents

- a) Data Store
- b) Data Process
- c) Data Flow
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: It resembles data flow in the direction of the arrow.

8. A DFD is always accompanied by a data dictionary.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: A data dictionary lists all data items appearing in a DFD including definition and data names.

9. Which of the following is a function of CASE Tool?

- a) Supporting Structured analysis and design (SA/SD)
- b) Maintaining the data dictionary
- c) Checking whether DFDs are balanced or not
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

10. Data Store Symbol in DFD represents a

- a) Physical file
- b) Data Structure
- c) Logical file
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: A logical file can be a data structure or a physical file on disk.

This set of Software Engineering online quiz focuses on “Function Oriented Design using Structured Analysis Structured Design”.

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- b) DeMarco and Yourdon methodology
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[View Answer](#)

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[View Answer](#)

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[View Answer](#)

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[View Answer](#)

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[View Answer](#)

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[View Answer](#)

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- b) Data Structure
- c) Logical file
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: A logical file can be a data structure or a physical file on disk.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Object Oriented Software Design – 1”.

1. Choose the incorrect statement in terms of Objects.

- a) Objects are abstractions of real-world
- b) Objects can't manage themselves
- c) Objects encapsulate state and representation information
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Objects are independent.

2. What encapsulates both data and data manipulation functions ?

- a) Object
- b) Class
- c) Super Class
- d) Sub Class

[View Answer](#)

Answer: a

Explanation: None.

3. Which of the following is a mechanism that allows several objects in a class hierarchy to have different methods with the same name?

- a) Aggregation
- b) Polymorphism
- c) Inheritance
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: In polymorphism instances of each subclass will be free to respond to messages by calling their own version of the method.

4. Inherited object classes are self-contained.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Inherited object classes are not self-contained. They cannot be understood without reference to their super-classes.

5. Which of the following points related to Object-oriented development (OOD) is true?

- a) OOA is concerned with developing an object model of the application domain
- b) OOD is concerned with developing an object-oriented system model to implement requirements
- c) All of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: The answer is in support with the OOD.

6. How is generalization implemented in Object Oriented programming languages?

- a) Inheritance
- b) Polymorphism
- c) Encapsulation
- d) Abstract Classes

[View Answer](#)

Answer: a

Explanation: None.

7. Which of the following is a disadvantage of OOD ?

- a) Easier maintenance
- b) Objects may be understood as stand-alone entities
- c) Objects are potentially reusable components
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options define the characteristics of OOD.

8. Which of the following describes "Is-a-Relationship" ?

- a) Aggregation
- b) Inheritance
- c) Dependency
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

9. Object that collects data on request rather than autonomously is known as

- a) Active Object
- b) Passive Object
- c) Multiple instance
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: A passive object holds data, but does not initiate control.

10. Objects are executed

- a) sequentially
- b) in Parallel
- c) sequentially & Parallel
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: Objects may be distributed and may execute sequentially or in parallel.

This set of Software Engineering Interview Questions and Answers for Experienced people focuses on “Object Oriented Software Design – 2”.

1. How many layers are present in the OO design pyramid?

- a) three
- b) four
- c) five
- d) one

[View Answer](#)

Answer: b

Explanation: The four layers are: Subsystem layer, class and object layer, message layer and responsibilities layer

2. Which of the following early OOD methods incorporates both a “micro development process” and a “macro development process.” ?

- a) Booch method
- b) Rumbaugh method
- c) Wirfs-Brock method
- d) Coad and Yourdon method

[View Answer](#)

Answer: a

Explanation: The macro development process includes the architectural planning and micro developments process defines rules that govern the use of operations and attributes and the domain-specific

policies for memory management, error handling, and other infrastructure functions.

3. Grady Booch, James Rumbaugh, and Ivar Jacobson combined the best features of their individual object-oriented analysis into a new method for object oriented design known as

- a) HTML
- b) XML
- c) UML
- d) SGML

[View Answer](#)

Answer: c

Explanation: The Unified Modeling Language (UML) has become widely used throughout the industry as the standard approach to OOD.

4. A design description of an object is known as a class

- a) instance
- b) object
- c) case
- d) both instance and object

[View Answer](#)

Answer: d

Explanation: None.

5. Which of the following is conceptually similar to objects?

- a) PACKAGE
- b) PROC
- c) PRIVATE
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: A package is a namespace that organizes a set of related classes and interfaces.

6. A design description in OOD includes

- a) Protocol Description
- b) Implementation Description
- c) Type Description
- d) both Protocol and Implementation Description

[View Answer](#)

Answer: d

Explanation: None.

7. Which of the following is not an operation as per OOD algorithms and data structures?

- a) operations that manipulate data in some way
- b) operations that perform a computation
- c) operations that check for syntax errors
- d) operations that monitor an object for the occurrence of a controlling event

[View Answer](#)

Answer: c

Explanation: Operations that check for syntax errors is concerned with the programming language used, so it will be handled by the compiler.

8. Throughout the OOD process, a software engineer should look for every opportunity for creating new design process.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: A software engineer should look for every opportunity to reuse existing design patterns whenever they meet the needs of the design rather than creating new ones.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Types of Software Metrics”.

1. Which of the following is the task of project indicators:

- a) help in assessment of status of ongoing project
- b) track potential risk
- c) help in assessment of status of ongoing project & track potential risk
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

2. Which of the following does not affect the software quality and organizational performance?

- a) Market
- b) Product
- c) Technology
- d) People

[View Answer](#)

Answer: a

Explanation: Market is a collection of competitors, stakeholders, users each having different views on the product. So it does not affect the software quality.

3. The intent of project metrics is:

- a) minimization of development schedule
- b) for strategic purposes
- c) assessing project quality on ongoing basis
- d) minimization of development schedule and assessing project quality on ongoing basis

[View Answer](#)

Answer: d

Explanation: A project metric is a quantitative measure of the degree to which a system, component or process possesses an attribute.

4. Which of the following is not a direct measure of SE process?

- a) Efficiency
- b) Cost
- c) Effort Applied
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Efficiency is an indirect measure.

5. Which of the following is an indirect measure of product?

- a) Quality
- b) Complexity

- c) Reliability
- d) All of the Mentioned

[View Answer](#)

Answer: d

Explanation: All the mentioned options are indirect measures of a product.

6. In size oriented metrics, metrics are developed based on the _____

- a) number of Functions
- b) number of user inputs
- c) number of lines of code
- d) amount of memory usage

[View Answer](#)

Answer: c

Explanation: None.

7. Which of the following is not an information domain required for determining function point in FPA ?

- a) Number of user Input
- b) Number of user Inquiries
- c) Number of external Interfaces
- d) Number of errors

[View Answer](#)

Answer: d

Explanation: FPA includes five domains namely input, output, inquiries, interface and logical files.

8. Usability can be measured in terms of:

- a) Intellectual skill to learn the system
- b) Time required to become moderately efficient in system usage
- c) Net increase in productivity
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

9. A graphical technique for finding if changes and variation in metrics data are meaningful is known as

- a) DRE (Defect Removal Efficiency)
- b) Function points analysis
- c) Control Chart
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Others options are formulas.

10. Defects removal efficiency (DRE)depends on:

- a) E – errors found before software delivery
- b) D – defects found after delivery to user

- c) Both E and D
- d) Varies with project

[View Answer](#)

Answer: c

Explanation: $DRE = E / (E + d)$.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Web Engineering Project Metrics”.

1. The user has no control over the contents of a static web page.

- a) True

- b) False

[View Answer](#)

Answer: a

Explanation: Static web pages are just for information purposes.

2. Which metric gives the idea about the contents on a web page ?

- a) Word Token
- b) Word Count
- c) Word Size
- d) Word Length

[View Answer](#)

Answer: b

Explanation: The word count metric gives the total number of words on a web page.

3. How is the complexity of a web page related to link count ?

- a) Directly
- b) Indirectly
- c) No relation
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: If link count is more, complexity will be more.

4. It is expected to have less number of connections for a good web application.

- a) True

- b) False

[View Answer](#)

Answer: a

Explanation: More the link count, more the complexity and the web page dependence factor will increase.

5. Number of dynamic web pages provides an idea about _____ for a web page that is to be built.

- a) size
- b) complexity
- c) effort

d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

6. Which of the following web engineering metric measures the extent of relatedness between two or more web pages ?

- a) Number of Static Content Objects
- b) Number of Dynamic Content Objects
- c) Web Page Similarity
- d) Number of Internal Page Links

[View Answer](#)

Answer: c

Explanation: None.

7. Which of the following is not a classification of the web engineering metric, Web Page Similarity ?

- a) Content based
- b) Link based
- c) Usage based
- d) Traffic based

[View Answer](#)

Answer: d

Explanation: Similarity between two web pages is not judged upon its traffic activity.

8. The static content objects are dependent on the actions of the user.

- a) True

- b) False

[View Answer](#)

Answer: b

Explanation: Dynamic Objects are user dependent

9. Link based measures rely on _____ structure of a web graph to obtain related pages.

- a) Embedded
- b) Hyperlink
- c) Dynamic
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Only option b answers the blank, rest are not in accordance to the question.

10. Which of the following is not a web engineering project metric ?

- a) Number of Static Content Objects
- b) Number of Dynamic Content Objects
- c) Number of Inherited Objects
- d) Word Count

[View Answer](#)

Answer: c

Explanation: There is no such metric as an inherited object's count.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Metrics Analysis”.

1. Which of the following is not a metric for design model?

- a) Interface design metrics
- b) Component-level metrics
- c) Architectural metrics
- d) Complexity metrics

[View Answer](#)

Answer: d

Explanation: Complexity metrics measure the logical complexity of source code.

2. Statement and branch coverage metrics are part of

- a) Analysis Model
- b) Testing
- c) Design Model
- d) Source Code

[View Answer](#)

Answer: b

Explanation: These metrics lead to the design of test cases that provide program coverage.

3. Function Points in software engineering was first proposed by

- a) Booch
- b) Boehm
- c) Albrecht
- d) Jacobson

[View Answer](#)

Answer: c

Explanation: First proposed by Albrecht in 1979, hundreds of books and papers have been written on functions points since then.

4. How many Information Domain Values are used for Function Point Computation?

- a) three
- b) four
- c) five
- d) six

[View Answer](#)

Answer: c

Explanation: The five values are: External Inputs, External Outputs, External Inquiries, Internal Logical Files and External Interface Files.

5. Function Point Computation is given by the formula

- a) $FP = [\text{count total} * 0.65] + 0.01 * \sum(F_i)$
- b) $FP = \text{count total} * [0.65 + 0.01 * \sum(F_i)]$.
- c) $FP = \text{count total} * [0.65 + 0.01] * \sum(F_i)$

d) $FP = [\text{count total} * 0.65 + 0.01] * \sum(F_i)$

[View Answer](#)

Answer: b

Explanation: Option b is the correct formula for Function Point Computation.

6. Architectural Design Metrics are _____ in nature.

- a) Black Box
- b) White Box
- c) Gray Box
- d) Green Box

[View Answer](#)

Answer: a

Explanation: They are “black box” in that they do not require any knowledge of the inner workings of a particular software component.

7. Structural complexity of a module i is given as $S(i) = f^*f(i)$. What does f symbolizes here?

- a) “fan check-out” of module i
- b) “fan check-in” of module i
- c) “fan in” of module i
- d) “fan out” of module i

[View Answer](#)

Answer: d

Explanation: Fan out is number of modules directly invoked by module i .

8. SMI stands for

- a) Software Mature Indicator
- b) Software Maturity Index
- c) Software Mature Index
- d) Software Maturity Indicator

[View Answer](#)

Answer: b

Explanation: None.

9. As the SMI approaches 1.0, the software product starts becoming unstable

- a) True

- b) False

[View Answer](#)

Answer: b

Explanation: As the SMI approaches 1.0, the software product begins to stabilize.

10. $SMI = [Mt - (Fa + Fc + Fd)]/Mt$. Here Mt is the number of modules

- a) in the current release
- b) in the current release that have been changed
- c) from the preceding release that were deleted in the current release
- d) none of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

11. The amount of time that the software is available for use is known as

- a) Reliability
- b) Usability
- c) Efficiency
- d) Functionality

[View Answer](#)

Answer: a

Explanation: None.

12. Usability in metric analysis is defined as the degree to which the software

- a) stated needs
- b) is easy to use
- c) makes optimal use of system resources
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Metrics for Quality Control”.

1. Size and Complexity are a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Product Metrics describe the characteristics of product.

2. Cost and schedule are a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Project Metrics describe the project characteristics and execution.

3. Number of errors found per person hours expended is an example of a

- a) measurement
- b) measure
- c) metric
- d) all of the mentioned

[View Answer](#)

Answer: c

Explanation: Metric is a quantitative measure of the degree to which a system, component, or process possesses a given attribute.

4. Which of the following is not categorized under Product Operation of McCall's Software Quality Factors?

- a) Flexibility
- b) Reliability
- c) Usability
- d) Integrity

[View Answer](#)

Answer: a

Explanation: Flexibility is a part of Product revision as per McCall's Software Quality Factors.

5. The arc-to-node ratio is given as $r = a/n$. What does 'a' represent in the ratio?

- a) maximum number of nodes at any level
- b) longest path from the root to a leaf
- c) number of modules
- d) lines of control

[View Answer](#)

Answer: d

Explanation: 'a' represents the arcs or the lines of control.

6. Which of the following is not categorized under Component-Level Design Metrics?

- a) Complexity Metrics
- b) Cohesion Metrics
- c) Morphology Metrics
- d) Coupling Metrics

[View Answer](#)

Answer: c

Explanation: Morphology metrics are a part of High level design metrics.

7. Percentage of modules that were inspected is a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

8. Metric is the act of obtaining a measure.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Measurement is the act of obtaining a measure.

9. MTTC falls the the category of

- a) correctness
- b) integrity
- c) maintainability
- d) all of the mentioned

[View Answer](#)

Answer: c

Explanation: Mean time to change (MTTC) is the time it takes to analyze the change request, design an appropriate modification, implement the change, test it, and distribute the change to all users.

10. Identify the correct option with reference to Software Quality Metrics.

- a) Integrity = $[\Sigma(1 - \text{threat})] * (1 - \text{security})$
- b) Integrity = $[1 - \Sigma(\text{threat})] * (1 - \text{security})$
- c) Integrity = $[1 - \text{threat} * \Sigma(1 - \text{security})]$.
- d) Integrity = $\Sigma[1 - \text{threat} * (1 - \text{security})]$.

[View Answer](#)

Answer: d

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Architectural Design”.

1. Architectural design is a creative process satisfying only functional-requirements of a system.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: In architectural design you design a system organization satisfying the functional and non-functional requirements of a system.

2. A _____ view shows the system hardware and how software components are distributed across the processors in the system.

- a) physical
- b) logical
- c) process
- d) all of the mentioned

[View Answer](#)

Answer: a

Explanation: A physical view is implemented by system engineers implementing the system hardware.

3. The UML was designed for describing _____

- a) object-oriented systems
- b) architectural design
- c) SRS

d) Both object-oriented systems and Architectural design

[View Answer](#)

Answer: d

Explanation: The UML was designed for describing object-oriented systems and, at the architectural design stage, you often want to describe systems at a higher level of abstraction.

4. Which of the following view shows that the system is composed of interacting processes at run time?

- a) physical
- b) development
- c) logical
- d) process

[View Answer](#)

Answer: d

Explanation: This view is useful for making judgments about non-functional system characteristics such as performance and availability.

5. Which of the following is an architectural conflict?

- a) Using large-grain components improves performance but reduces maintainability
- b) Introducing redundant data improves availability but makes security more difficult
- c) Localizing safety-related features usually means more communication so degraded performance
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: High availability architecture can be affected by several design factors that are required to be maintained to ensure that no single points of failure exist in such design.

6. Which of the following is not included in Architectural design decisions?

- a) type of application
- b) distribution of the system
- c) architectural styles
- d) testing the system

[View Answer](#)

Answer: d

Explanation: Architectural design decisions include decisions on the type of application, the distribution of the system, the architectural styles to be used, and the ways in which the architecture should be documented and evaluated.

7. Architecture once established can be applied to other products as well.

- a) True

- b) False

[View Answer](#)

Answer: b

Explanation: Systems in the same domain often have similar architectures that reflect domain concepts.

8. Which of the following pattern is the basis of interaction management in many web-based systems?

- a) architecture
- b) repository pattern
- c) model-view-controller
- d) different operating system

[View Answer](#)

Answer: c

Explanation: Model-View-Controller pattern is the basis of interaction management in many web-based systems.

9. What describes how a set of interacting components can share data?

- a) model-view-controller
- b) architecture pattern
- c) repository pattern
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: The majority of systems that use large amounts of data are organized around a shared database or repository.

10. Which view in architectural design shows the key abstractions in the system as objects or object classes?

- a) physical
- b) development
- c) logical
- d) process

[View Answer](#)

Answer: c

Explanation: It is possible to relate the system requirements to entities in a logical view.

11. Which of the following is a type of Architectural Model?

- a) Static structural model
- b) Dynamic process model
- c) Distribution model
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All these models reflects the basic strategy that is used to structure a system.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Architectural Patterns”.

1. Which of these following sensor is a useful as part of a burglar alarm system for commercial buildings?

- a) Movement detector
- b) Door sensor

- c) Window sensor
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: A burglar alarm system for commercial buildings include movement detectors in individual rooms, door sensors that detect corridor doors opening, and window sensors on ground-floor windows that can detect when a window has been opened.

2. Which of the following is not real-time architectural patterns that are commonly used?

- a) Asynchronous communication
- b) Observe and React
- c) Environmental Control
- d) Process Pipeline

[View Answer](#)

Answer: a

Explanation: These patterns can be combined and you will often see more than one of them in a single system.

3. A monitoring system examines its environment through

- a) operating system
- b) communication
- c) set of sensors
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: If some exceptional event or sensor state is detected by the system, the monitoring system takes some action. Often, this involves raising an alarm to draw an operator's attention to the event.

4. Which of the following is applicable on software radio?

- a) Environmental Control
- b) Process Pipeline
- c) Distributed system
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: A software radio accepts incoming packets of digital data representing the radio transmission and transforms these into a sound signal that people can listen to.

5. An example of a system that may use a process pipeline is a high-speed

- a) data distributing system
- b) data acquisition system
- c) data collector system
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Data acquisition systems collect data from sensors for subsequent processing and analysis.

6. Monitoring systems are an important class of embedded real-time systems.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: A monitoring system examines its environment through a set of sensors and, usually, displays the state of the environment in some way.

7. Which of the following is an example of a controller for a car braking system?

- a) Observe and React
- b) Process Pipeline
- c) Environmental Control
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: An anti-skid braking system in a car monitors the car's wheels and brake system .

8. ETL stands for

- a) Data Extraction Transformation & Loading
- b) Data Execution Transformation & Loading
- c) Extraction Transformation & Loading
- d) Execution Transformation & Loading

[View Answer](#)

Answer: a

Explanation: None.

9. Control systems may make use of the Environmental Control pattern, which is a general control pattern that includes _____ processes.

- a) sensor
- b) actuator
- c) pipeline
- d) both sensor and actuator

[View Answer](#)

Answer: d

Explanation: Such patterns are quite common in Environmental Control Systems.

10. _____ can be associated with a separate processor or core, so that the processing steps can be carried out in parallel.

- a) Process Pipeline
- b) Environmental Control
- c) Observe and React
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: The Process Pipeline pattern makes this rapid processing possible by breaking down the required data processing into a sequence of separate transformations, with each transformation carried out by an independent process.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Application Architectures”.

1. Which of the following examples is/are models of application architectures?

- a) a means of assessing components for reuse
- b) a design checklist
- c) a vocabulary for talking about types of applications
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: Application architectures encapsulate the principal characteristics of a class of systems.

2. ERP stands for

- a) Enterprise Research Planning
- b) Enterprise Resource Planning
- c) Enterprise Resource Package
- d) Enterprise Research Package

[View Answer](#)

Answer: b

Explanation: None.

3. Which of the following type describes application architectures?

- a) Transaction processing applications
- b) Language processing systems
- c) Client management systems
- d) Transaction processing applications and Language processing systems

[View Answer](#)

Answer: d

Explanation: Transaction processing applications are database-centered applications that process user requests for information and update the information in a database, while language processing systems are systems in which the user's intentions are expressed in a formal language.

4. All the operations in a transaction need to be completed before the database changes are made

-
- a) functional
 - b) available to the users
 - c) permanent
 - d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: This ensures that failure of operations within the transaction does not lead to inconsistencies in the database.

5. Systems that involve interaction with a shared database can be considered as.

- a) software-based

- b) transaction-based
- c) server-based
- d) client-based

[View Answer](#)

Answer: b

Explanation: Such systems with a shared database are also referred to as transaction based information systems.

6. What translates a natural or an artificial language into another representation of that language and, for programming languages also execute the resulting code?

- a) ERP systems
- b) Transaction-based information systems
- c) Language processing systems
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: In software engineering, compilers translate an artificial programming language into machine code.

7. Properties of a system such as performance and security are independent of the architecture used.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Properties such as performance, security, and availability are influenced by the architecture used.

8. Which of the following is/are commonly used architectural pattern(s)?

- a) Model-View-Controller
- b) Layered Architecture
- c) Client-server
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Commonly used architectural patterns include Model-View-Controller, Layered Architecture, Repository, Client-server, and Pipe and Filter.

9. A language-processing systems may translate an XML data description into

- a) a machine code
- b) an alternative XML representation
- c) machine code and alternative XML representation
- d) a software module

[View Answer](#)

Answer: c

Explanation: Such is the property and function of language processing system.

10. Transaction processing systems may be organized as a _____ architecture with system components responsible for input, processing, and output.

- a) Repository
- b) Client-server
- c) Model-View-Controller
- d) Pipe and Filter

[View Answer](#)

Answer: d

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Unified Modelling Language”.

1. Object oriented analysis and design can be handled by the one who knows UML.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: The Unified Modeling Language includes a set of graphic notation techniques to create visual models of object-oriented software-intensive systems.

2. At Conceptual level Class diagrams should include

- a) operations only
- b) attributes only
- c) both operations and attributes
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: In software engineering, a class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations, and the relationships among objects.

3. Select the statement true for activity diagrams.

- a) They can be used to discover parallel activities
- b) They are used to depict workflow for a particular business activity
- c) Activity diagram do not tell who does what and are difficult to trace back to object models
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Activity diagrams are graphical representations of workflows of step wise activities and actions with support for choice, iteration and concurrency.

4. Constraints can be represented in UML by

- a) {text}
- b) [text].
- c) Constraint

- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Constraints are represented by {text string}.

5. What is an object?

- a) An object is an instance of a class
- b) An object includes encapsulation of data
- c) An object is not an instance of a class
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: An object is an instance of a class.

6. What is an abstract class?

- a) A class that has direct instances, but whose descendants may have direct instances
- b) A class that has direct instances, but whose descendants may not have direct instances
- c) A class that has no direct instances, but whose descendants may have direct instances
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: An abstract type is a type in a nominative type system which cannot be instantiated directly.

7. Which of the following are the valid relationships in Use Case Diagrams

- a) Generalization
- b) Include
- c) Extend
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Generalization, include, extend all of these are valid relationships in use case diagrams.

8. Which of the following statement(s) is true about interaction diagrams?

- a) Interaction diagrams are at their best when they deal with one main design flow and not multiple variants that can happen
- b) Interaction diagrams are good at designing part or all of one use case's functionality across multiple objects
- c) Interaction diagrams allow the analyst to show iteration and conditional execution for messaging between objects
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Interaction diagram is used to describe some type of interactions among the different elements in the model. So this interaction is a part of dynamic behaviour of the system.

9. UML interfaces are used to:

- a) specify required services for types of objects
- b) program in Java, but not in C++ or Smalltalk
- c) define executable logic to reuse across classes
- d) define an API for all classes

[View Answer](#)

Answer: a

Explanation: An interface is like a template design for a class that contains no data or implementation; only definitions for methods, properties etc.

10. Referring to the attached diagram, the arrow indicates:

- a) Navigability
- b) Dependency
- c) Association
- d) Refers to

[View Answer](#)

Answer: a

Explanation: The arrows describe the ways you can navigate.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Building Blocks of UML”.

1. Which of the following is a building block of UML?

- a) Things
- b) Relationships
- c) Diagrams
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All are the building blocks of UML which are further sub-categorized.

2. Classes and interfaces are a part of

- a) Structural things
- b) Behavioral things
- c) Grouping things
- d) Annotational things

[View Answer](#)

Answer: a

Explanation: Structural things are mostly static parts of a model, representing elements that are either conceptual or physical.

3. What is a collection of operations that specify a service of a class or component?

- a) Use Case
- b) Actor
- c) Interface
- d) Relationship

[View Answer](#)

Answer: c

Explanation: None.

4. What is a physical element that exists at runtime in UML?

- a) A node
- b) An interface
- c) An activity
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: A node represents a computational resource.

5. What can be requested from any object of the class to affect behavior?

- a) object
- b) attribute
- c) operation
- d) instance

[View Answer](#)

Answer: c

Explanation: An operation is the implementation of a service that can be requested from any object of the class to affect behavior.

6. Which things are dynamic parts of UML models?

- a) Structural things
- b) Behavioral things
- c) Grouping things
- d) Annotational things

[View Answer](#)

Answer: b

Explanation: These are the verbs of a model, representing behavior over time and space.

7. Which diagram in UML emphasizes the time-ordering of messages?

- a) Activity
- b) Sequence
- c) Collaboration
- d) Class

[View Answer](#)

Answer: b

Explanation: This diagram is a model describing how groups of objects collaborate in some behavior over time.

8. Object diagram captures the behavior of a single use case.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Sequence Diagram is responsible for this.

9. If you are working on real-time process control applications or systems that involve concurrent processing, you would use a

- a) Activity diagram
- b) Sequence diagram
- c) Statechart diagram
- d) Object diagram

[View Answer](#)

Answer: c

Explanation: A statechart diagram shows a state machine, consisting of states, transitions, events, and activities.

10. Which diagram shows the configuration of run-time processing elements?

- a) Deployment diagram
- b) Component diagram
- c) Node diagram
- d) ER-diagram

[View Answer](#)

Answer: a

Explanation: A Deployment diagram shows the configuration of run-time processing elements and the software components, processes, and objects.

11. Which things in UML are the explanatory parts of UML models?

- a) Structural things
- b) Behavioral things
- c) Grouping things
- d) Annotational things

[View Answer](#)

Answer: d

Explanation: It include a note which is simply a symbol for rendering constraints and comments attached to an element or a collection of elements.

12. Which of the following term is best defined by the statement:"a structural relationship that specifies that objects of one thing are connected to objects of another"?

- a) Association
- b) Aggregation
- c) Realization
- d) Generalization

[View Answer](#)

Answer: a

Explanation: None.

13. What refers to the value associated with a specific attribute of an object and to any actions or side?

- a) Object
- b) State
- c) Interface
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: In a state chart diagram, effects occur when the attribute's value changes.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Diagrams in UML – 1”.

1. Which of the following UML diagrams has a static view?

- a) Collaboration
- b) Use case
- c) State chart
- d) Activity

[View Answer](#)

Answer: b

Explanation: A use case diagrams captures only the functionality of the system whereas a dynamic model/view captures the functions as well as the action.

2. What type of core-relationship is represented by the symbol in the figure below?



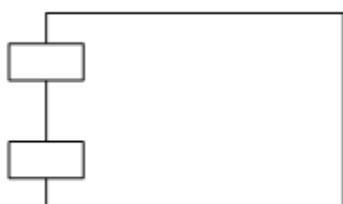
- a) Aggregation
- b) Dependency
- c) Generalization
- d) Association

[View Answer](#)

Answer: a

Explanation: None.

3. Which core element of UML is being shown in the figure?



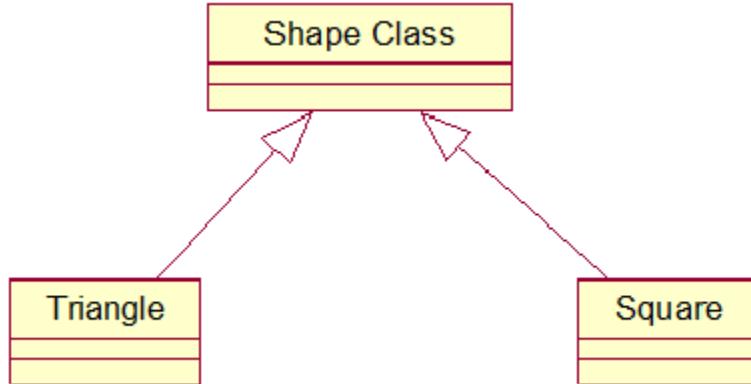
- a) Node
- b) Interface
- c) Class
- d) Component

[View Answer](#)

Answer: d

Explanation: The figure is self explanatory. A component is a modular, significant and replaceable part of the system that packages implementation and exposes a set of interfaces.

4. What type of relationship is represented by Shape class and Square ?



- a) Realization
- b) Generalization
- c) Aggregation
- d) Dependency

[View Answer](#)

Answer: b

Explanation: The generalization relationship is also known as the inheritance relationship. In the figure Square is the subclass of superclass shape.

5. Which diagram in UML shows a complete or partial view of the structure of a modeled system at a specific time?

- a) Sequence Diagram
- b) Collaboration Diagram
- c) Class Diagram
- d) Object Diagram

[View Answer](#)

Answer: d

Explanation: An object diagram focuses on some particular set of object instances and attributes, and the links between the instances. It is a static snapshot of a dynamic view of the system.

6. Interaction Diagram is a combined term for

- a) Sequence Diagram + Collaboration Diagram
- b) Activity Diagram + State Chart Diagram
- c) Deployment Diagram + Collaboration Diagram
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Interaction diagram are used to formalize the dynamic behavior of the system.

7. Structure diagrams emphasize the things that must be present in the system being modeled.

- a) True

b) False

[View Answer](#)

Answer: a

Explanation: Since structure diagrams represent the structure they are used extensively in documenting the architecture of software systems

8. Which of the following diagram is time oriented?

- a) Collaboration
- b) Sequence
- c) Activity
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: A sequence diagrams timeline along which tasks are completed.

This set of Software Engineering Multiple Choice Questions & Answers focuses on “Diagrams in UML – 2”.

1. How many diagrams are here in Unified Modelling Language?

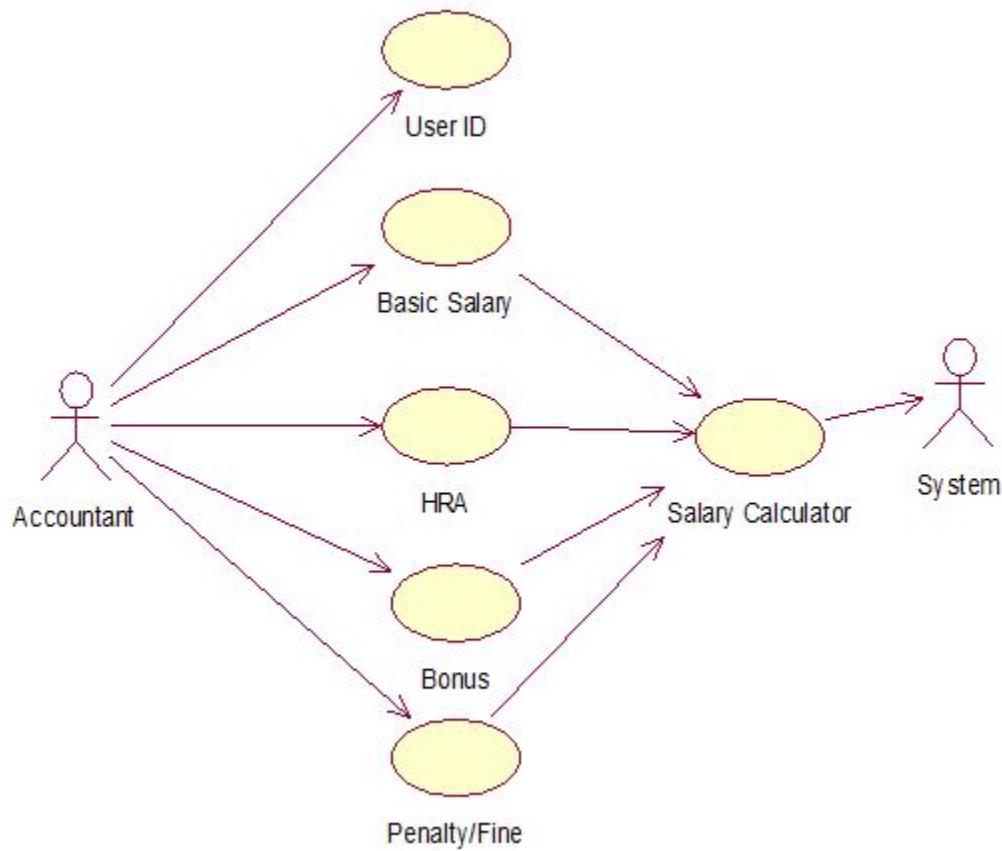
- a) six
- b) seven
- c) eight
- d) nine

[View Answer](#)

Answer: d

Explanation: The nine UML diagrams include use-case, sequence, collaboration, activity, state-chart, deployment, class, object and component.

2. Which UML diagram is shown below?



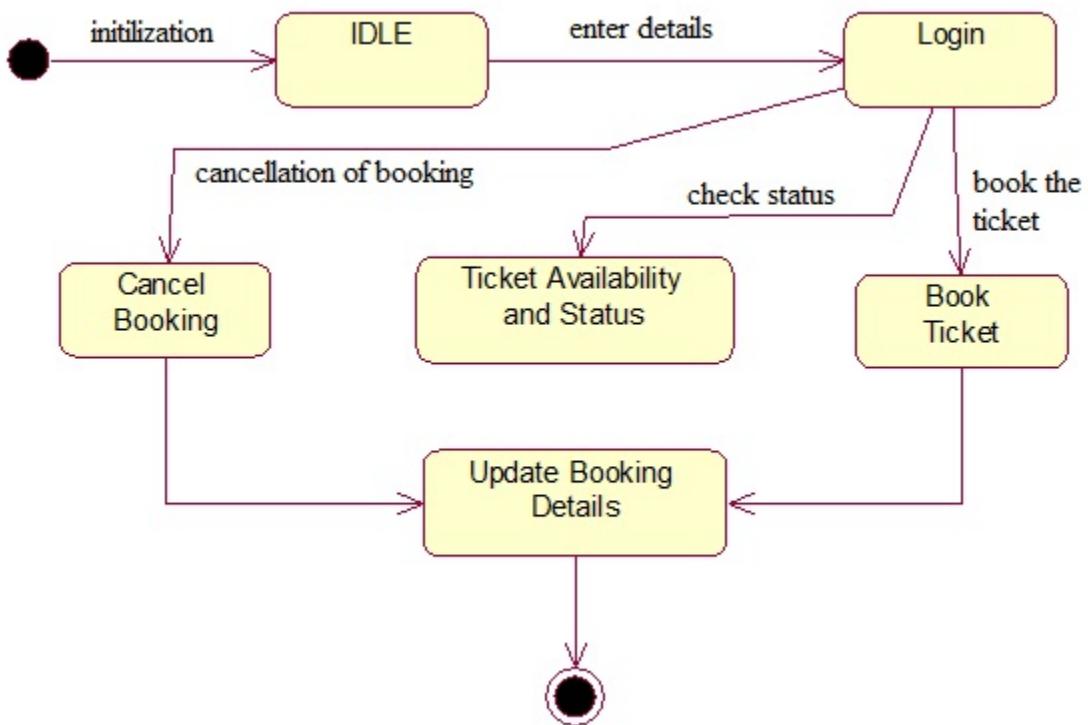
- a) Use Case
- b) Collaboration Diagram
- c) Class Diagram
- d) Object Diagram

[View Answer](#)

Answer: a

Explanation: None.

3. Which UML diagram is shown below?



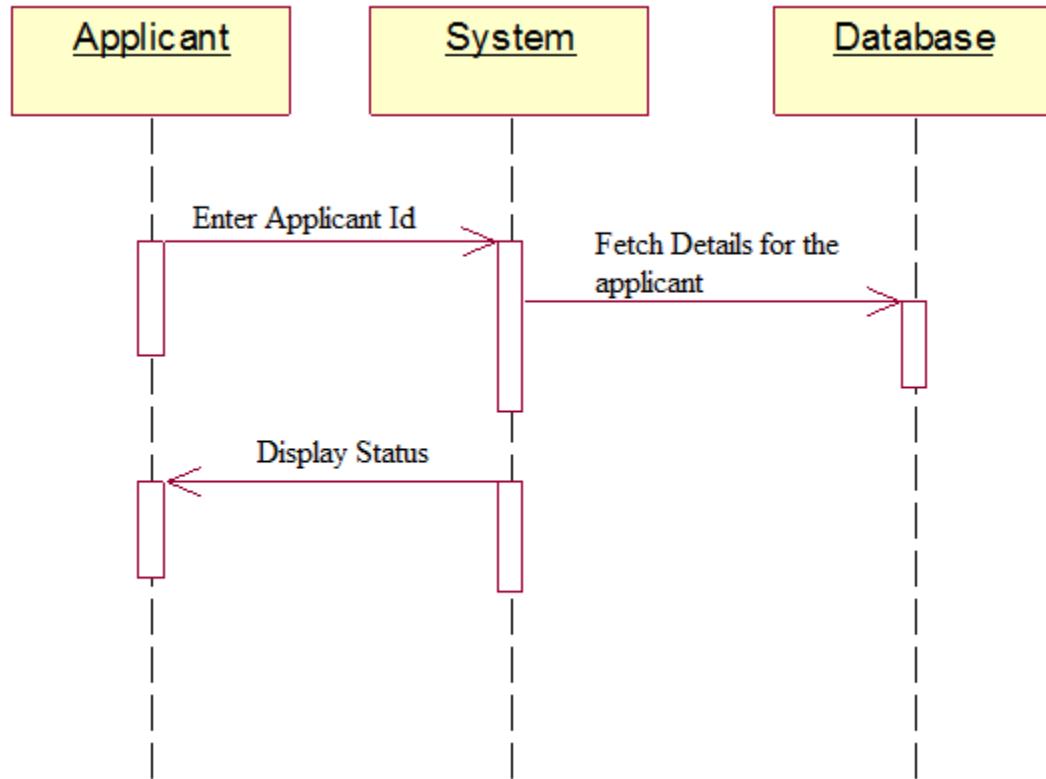
- a) Use Case
- b) State Chart
- c) Activity
- d) Object Diagram

View Answer

Answer: b

Explanation: None.

4. Which UML diagram is shown below?



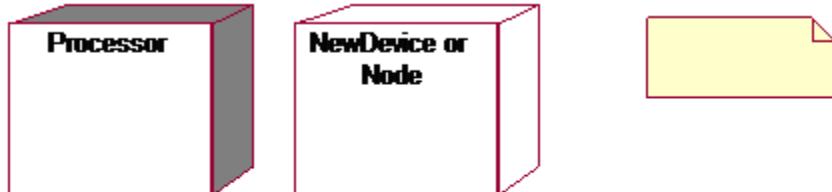
- a) Use Case
- b) Collaboration Diagram
- c) Sequence Diagram
- d) Object Diagram

View Answer

Answer: c

Explanation: None.

5. Which UML diagram's symbols are shown below?



- a) Deployment diagram
- b) Collaboration Diagram
- c) Component Diagram

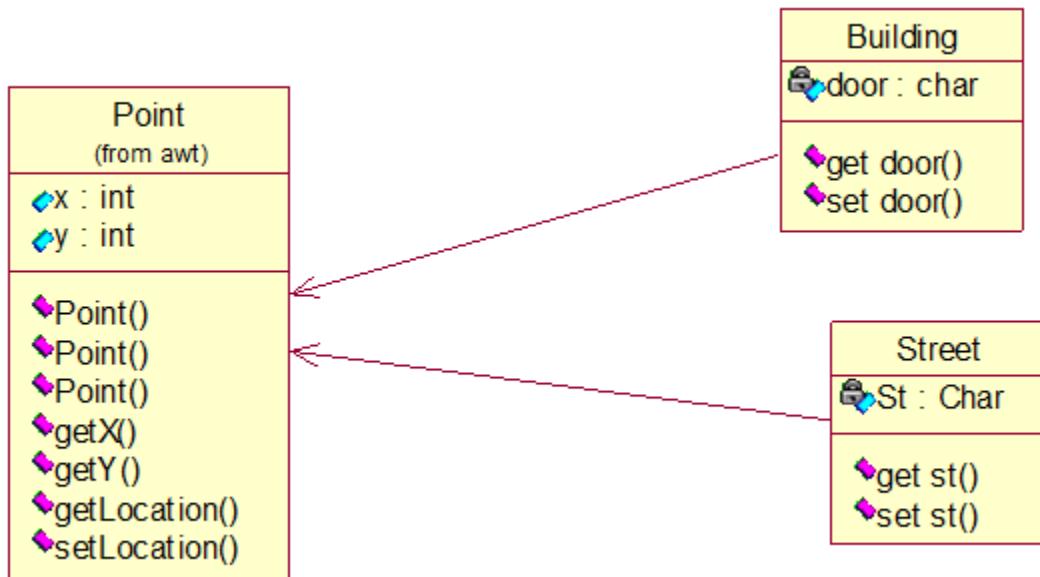
d) Object Diagram

View Answer

Answer: a

Explanation: None.

6. Which UML diagram is shown below?



a) Deployment diagram

b) Collaboration Diagram

c) Object Diagram

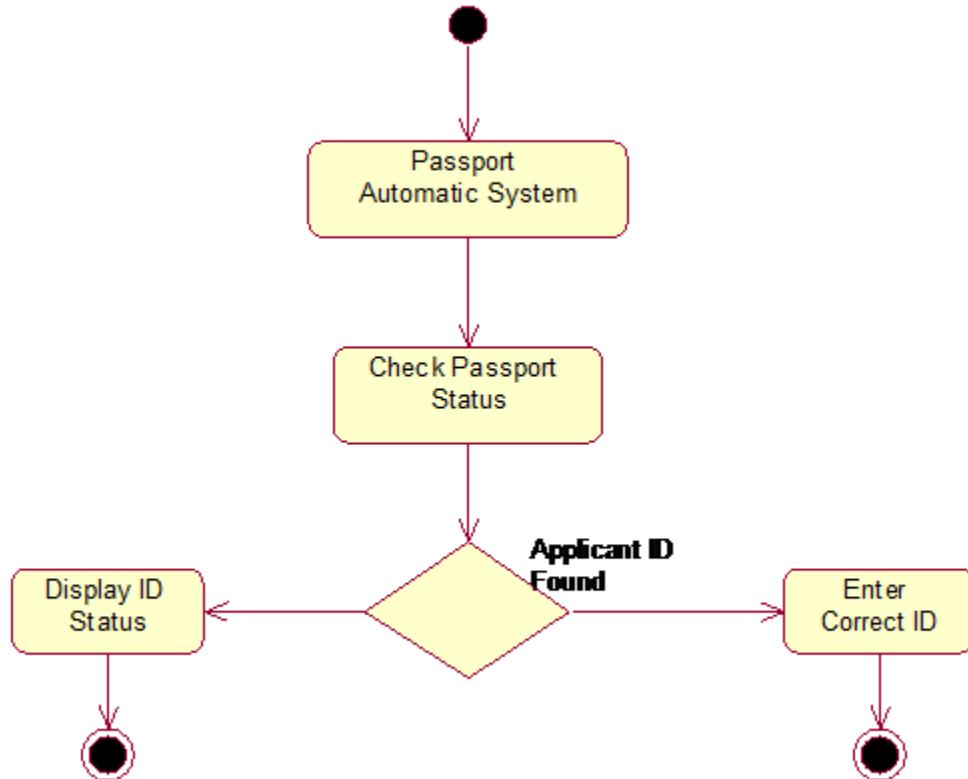
d) Class Diagram

View Answer

Answer: d

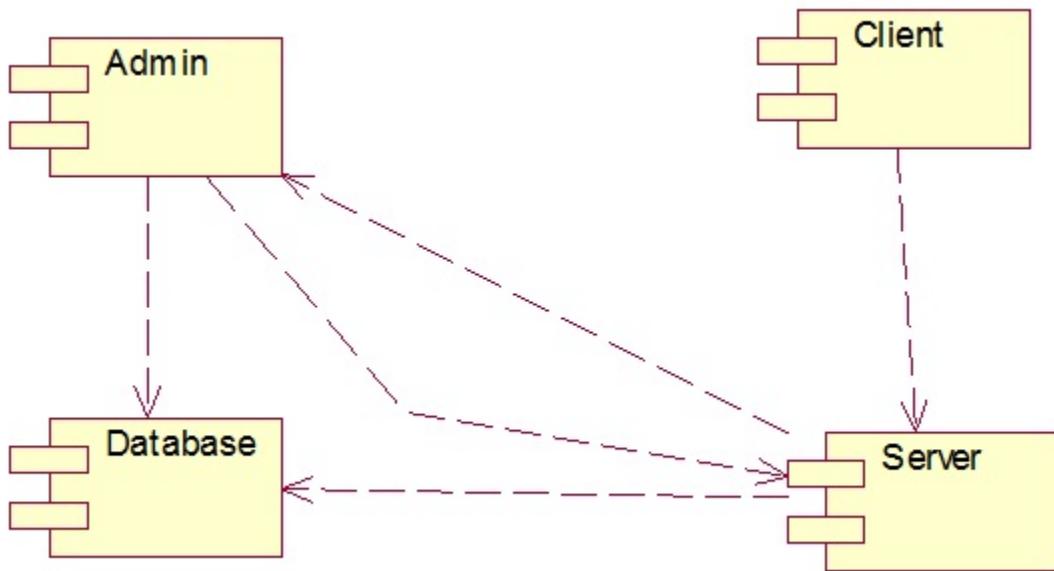
Explanation: None.

7. Which UML diagram is shown below?



- a) Activity
 - b) State chart
 - c) Sequence
 - c) Collaboration
- View Answer
Answer: a
Explanation: None.

8. Which UML diagram is shown below?



- a) Component
- b) Deployment
- c) Use Case
- d) DFD

[View Answer](#)

Answer: a

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Object Oriented Design using UML”.

1. Which of the following is not needed to develop a system design from concept to detailed object-oriented design?

- a) Designing system architecture
- b) Developing design models
- c) Specifying interfaces
- d) Developing a debugging system

[View Answer](#)

Answer: d

Explanation: The debugging system is a part of testing phase.

2. Which of the following is a dynamic model that shows how the system interacts with its environment as it is used?

- a) system context model
- b) interaction model
- c) environmental model
- d) both system context and interaction

[View Answer](#)

Answer: b

Explanation: None.

3. Which of the following is a structural model that demonstrates the other systems in the environment of the system being developed?

- a) system context model
- b) interaction model
- c) environmental model
- d) both system context and interaction

[View Answer](#)

Answer: a

Explanation: The context model of a system may be represented using associations. Associations simply show that there are some relationships between the entities involved in the association.

4. Which of the following come under system control?

- a) Reconfigure
- b) Shutdown
- c) Powersave
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Functionalities are governed by the system.

5. We use _____ where various parts of system use are identified and analyzed in turn.

- a) tangible entities
- b) scenario-based analysis
- c) design-based analysis
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Use a scenario-based analysis where various scenarios of system use are identified and analyzed in turn.

6. Which model describes the static structure of the system using object classes and their relationships?

- a) Sequence model
- b) Subsystem model
- c) Dynamic model
- d) Structural model

[View Answer](#)

Answer: d

Explanation: Important relationships that may be documented at this stage are generalization (inheritance) relationships, uses/used-by relationships, and composition relationships.

7. Which model shows the flow of object interactions?

- a) Sequence model
- b) Subsystem model
- c) Dynamic model

d) Both Sequence and Dynamic model

[View Answer](#)

Answer: a

Explanation: Sequence model are represented using a UML sequence or a collaboration diagram and are dynamic models.

8. If the system state is Shutdown then it can respond to which of the following message?

- a) restart()
- b) reconfigure()
- c) powerSave()
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: A restart() message causes a transition to normal operation. Both the powerSave() and reconfigure() messages cause a transition to a state in which the system reconfigures itself.

9. Which message is received so that the system moves to the Testing state, then the Transmitting state, before returning to the Running state?

- a) signalStatus()
- b) remoteControl()
- c) reconfigure()
- d) reportStatus()

[View Answer](#)

Answer: d

Explanation: None.

10. Open source development involves making the source code of a system publicly available.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: This means that many people can propose changes and improvements to the software.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Analysis Modelling”.

1. Which of the following is not the primary objectives in the analysis model?

- a) describing the customer complaints
- b) establishing a basis for the creation of a software design
- c) defining a set of requirements that can be validated once the software is built
- d) none of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options are covered in analysis model.

2. A description of each function presented in the DFD is contained in a _____

- a) data flow

- b) process specification
- c) control specification
- d) data store

[View Answer](#)

Answer: b

Explanation: None.

3. Which diagram indicates the behaviour of the system as a consequence of external events?

- a) data flow diagram
- b) state transition diagram
- c) control specification diagram
- d) workflow diagram

[View Answer](#)

Answer: b

Explanation: The state transition diagram represents the various modes of behavior (called states) of the system and the manner in which transitions are made from state to state.

4. A data model contains

- a) data object
- b) attributes
- c) relationships
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: The data model consists of three interrelated pieces of information: the data object, the attributes that describe the data object, and the relationships that connect data objects to one another.

5. _____ defines the properties of a data object and take on one of the three different characteristics.

- a) data object
- b) attributes
- c) relationships
- d) data object and attributes

[View Answer](#)

Answer: b

Explanation: They can be used to name an instance of the data object, describe the instance, or make reference to another instance in another table.

6. The _____ of a relationship is 0 if there is no explicit need for the relationship to occur or the relationship is optional.

- a) modality
- b) cardinality
- c) entity
- d) structured analysis

[View Answer](#)

Answer: a

Explanation: The modality is 1 if an occurrence of the relationship is mandatory, else 0 for optional relationship.

7. A _____ is a graphical representation that depicts information flow and the transforms that are applied as data moves from input to output.

- a) data flow diagram
- b) state transition diagram
- c) control specification
- d) workflow diagram

[View Answer](#)

Answer: b

Explanation: The basic form of a data flow diagram, also known as a data flow graph or a bubble chart.

8. A data condition occurs whenever a data is passed to an input element followed by a processing element and the result in control output.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Standard flow of condition check.

9. The _____ enables the software engineer to develop models of the information domain and functional domain at the same time

- a) data flow diagram
- b) state transition diagram
- c) control specification
- d) activity diagram

[View Answer](#)

Answer: a

Explanation: As the DFD is refined into greater levels of detail, the analyst performs an implicit functional decomposition of the system, thereby accomplishing the fourth operational analysis principle for function.

10. The _____ contains a state transition diagram that is a sequential specification of behavior.

- a) data flow diagram
- b) state transition diagram
- c) control specification
- d) workflow diagram

[View Answer](#)

Answer: c

Explanation: The control specification(CSPEC) describes the behavior of the system, but it gives us no information about the inner working of the processes that are activated as a result of this behavior .

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Component Level Design”.

1. Which of the following is not a construct?

- a) sequence
- b) condition
- c) repetition
- d) selection

[View Answer](#)

Answer: d

Explanation: Sequence implements processing steps that are essential in the specification of any algorithm. Condition provides the facility for selected processing based on some logical occurrence, and repetition allows for looping.

2. Which of the following steps is applied to develop a decision table?

- a) List all actions that can be associated with a specific procedure
- b) List all conditions during execution of the procedure
- c) Define rules by indicating what action(s) occurs for a set of conditions
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: A decision table includes action stub and a condition stub with a set of rules.

3. _____ is a pidgin(simplified version of a language that develops as a means of communication between two or more groups that do not have a language in common)

- a) program design language
- b) structured English
- c) pseudocode
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: The difference between PDL and a real programming language lies in the use of narrative text embedded directly within PDL statements.

4. Which of the following term is best defined by the statement: "The ability to represent local and global data is an essential element of component-level design."?

- a) Data representation
- b) Logic verification
- c) "Code-to" ability
- d) Automatic processing

[View Answer](#)

Answer: a

Explanation: None.

5. A software component

- a) Implements some functionality
- b) Has explicit dependencies through provides and required interfaces

- c) Communicates through its interfaces only
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options identify with features of a software component.

6. Which diagram evolved from a desire to develop a procedural design representation that would not allow violation of the structured constructs?

- a) State transition diagram
- b) Box diagram
- c) ER diagram
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

7. A _____ executes the loop task first, then tests a condition and repeats the task until the condition fails.

- a) repeat until
- b) condition
- c) do while tests
- d) if then-else

[View Answer](#)

Answer: a

Explanation: None.

8. Which of the following is not a characteristics of box diagram?

- a) functional domain
- b) arbitrary transfer of control is impossible
- c) recursion is easy to represent
- d) providing a notation that translates actions and conditions

[View Answer](#)

Answer: d

Explanation: This functionality is covered by UML diagrams.

9. The _____ is represented as two processing boxes connected by an line (arrow) of control.

- a) Repetition
- b) Sequence
- c) Condition
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

10. Which of the following term is best defined by the statement “Notation that can be input directly into a computer-based development system offers significant benefits.”?

- a) Machine readability
- b) Maintainability

- c) Structure enforcement
- d) Overall simplicity

[View Answer](#)

Answer: a

Explanation: Readability is processing input.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “User Interface Design”.

1. Which of the following is golden rule for interface design?

- a) Place the user in control
- b) Reduce the user’s memory load
- c) Make the interface consistent
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: These golden rules actually form the basis for a set of user interface design principles that guide this important software design activity.

2. Which of the following is not a design principle that allow the user to maintain control?

- a) Provide for flexible interaction
- b) Allow user interaction to be interrupt-able and undo-able
- c) Show technical internals from the casual user
- d) Design for direct interaction with objects that appear on the screen

[View Answer](#)

Answer: c

Explanation: The user interface should move the user into the virtual world of the application.

3. Which of the following is not a user interface design process?

- a) User, task, and environment analysis and modeling
- b) Interface design
- c) Knowledgeable, frequent users
- d) Interface validation

[View Answer](#)

Answer: c

Explanation: These are the end user for whom the product is being built.

4. When users are involved in complex tasks, the demand on _____ can be significant.

- a) short-term memory
- b) shortcuts
- c) objects that appear on the screen
- d) all of the mentioned

[View Answer](#)

Answer: a

Explanation: The interface should be designed to reduce the requirement to remember past actions and results.

5. Which of the following option is not considered by the Interface design?

- a) the design of interfaces between software components
- b) the design of interfaces between the software and human producers and consumers of information
- c) the design of the interface between two computers
- d) all of the mentioned

[View Answer](#)

Answer: c

Explanation: None

6. A software might allow a user to interact via

- a) keyboard commands
- b) mouse movement
- c) voice recognition commands
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: All the mentioned input mediums are available today.

7. A software engineer designs the user interface by applying an iterative process that draws on predefined design principles.

- a) True

- b) False

[View Answer](#)

Answer: a

Explanation: The statement is true.

8. What incorporates data, architectural, interface, and procedural representations of the software?

- a) design model
- b) user's model
- c) mental image
- d) system image

[View Answer](#)

Answer: a

Explanation: The requirements specification may establish certain constraints that help to define the user of the system, but the interface design is often only incidental to the design model.

9. What establishes the profile of end-users of the system?

- a) design model
- b) user's model
- c) mental image
- d) system image

[View Answer](#)

Answer: b

Explanation: To build an effective user interface, all design should begin with an understanding of the intended users, including their profiles of their age, physical abilities, education, etc.

10. What combines the outward manifestation of the computer-based system , coupled with all supporting information that describe system syntax and semantics?

- a) mental image
- b) interface design
- c) system image
- d) interface validation

[View Answer](#)

Answer: c

Explanation: When the system image and the system perception are coincident, users generally feel comfortable with the software and use it effectively.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Test Case Design”.

1. What do you understand by V&V in software testing?

- a) Verified Version
- b) Version Validation
- c) Verification and Validation
- d) Version Verification

[View Answer](#)

Answer: c

Explanation: V&V generally refers to any activity that attempts to ensure that the software will function as required.

2. In static test techniques, behavioral and performance properties of the program are observed.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Static Analysis Techniques are based solely on the (manual or automated) examination of project documentation of software models and code.

3. Which granularity level of testing checks the behavior of module cooperation?

- a) Unit Testing
- b) Integration Testing
- c) Acceptance Testing
- d) Regression Testing

[View Answer](#)

Answer: b

Explanation: Integration testing is the phase in software testing in which individual software modules are combined and tested as a group.

4. Which test refers to the retesting of a unit, integration and system after modification, in order to ascertain that the change has not introduced new faults?

- a) Regression Test
- b) Smoke Test
- c) Alpha Test

d) Beta Test

[View Answer](#)

Answer: a

Explanation: Regression test seeks to uncover new software bugs in existing functional and non-functional areas of a system after changes have been made to them.

5. Which of the following is a black box testing strategy?

- a) All Statements Coverage
- b) Control Structure Coverage
- c) Cause-Effect Graphs
- d) All Paths Coverage

[View Answer](#)

Answer: c

Explanation: Rest are test strategies of white box testing.

6. A set of inputs, execution preconditions and expected outcomes is known as a

- a) Test plan
- b) Test case
- c) Test document
- d) Test Suite

[View Answer](#)

Answer: b

Explanation: None.

7. In which test design each input is tested at both ends of its valid range and just outside its valid range?

- a) Boundary value testing
- b) Equivalence class partitioning
- c) Boundary value testing AND Equivalence class partitioning
- d) Decision tables

[View Answer](#)

Answer: a

Explanation: Boundary value analysis is a software testing technique in which tests are designed to include representatives of boundary values.

8. A white box test scales up well at different granularity levels of testing.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: A white box test is mostly applicable at unit and integration testing level.

9. When does the testing process stops?

- a) When resources (time and budget) are over
- b) When some coverage is reached
- c) When quality criterion is reached
- d) Testing never ends

[View Answer](#)

Answer: c

Explanation: As software testing is an exhaustive process, when the quality assurance is established and the product is ready to be delivered, testing is stopped.

10. Which of the following is not a part of a test design document?

- a) Test Plan
- b) Test Design Specification
- c) Test Case Specification
- d) Test Log

[View Answer](#)

Answer: d

Explanation: Test log is a part of testing result document.

11. Specifying a set of test cases or test paths for each item to be tested at that level is known as

- a) Test case generation
- b) Test case design
- c) ALL of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

12. Acceptance & system test planning are a part of architectural design.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: They are a part of requirements engineering, while integration & unit test planning come under architectural design.

13. PRD stands for

- a) Product Requirement Document
- b) Project Requirement Document
- c) Product Restrictions Document
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: A product requirements document (PRD) is a document written by a company that defines a product they are making, or the requirements for one or more new features for an existing product.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Design Pattern”.

1. Which mechanism is applied to use a design pattern in an OO system?

- a) Inheritance
- b) Composition
- c) All of the mentioned

d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Using inheritance, an existing design pattern becomes a template for a new subclass. Composition is a concept that leads to aggregate objects.

2. Design patterns does not follow the concept of software reuse.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Design patterns allow the designer to create the system architecture by integrating reusable components.

3. The use of design patterns for the development of object-oriented software has important implications for

a) Component-based software engineering

b) Reusability in general

c) All of the mentioned

d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

4. Which of the following is a design pattern?

a) Behavioral

b) Structural

c) Abstract Factory

d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options are design patterns so option d.

5. You want to minimize development cost by reusing methods? Which design pattern would you choose?

a) Adapter Pattern

b) Singleton Pattern

c) Delegation pattern

d) Immutable Pattern

[View Answer](#)

Answer: c

Explanation: The delegation pattern is a design pattern in OOP where an object, instead of performing one of its stated tasks, delegates that task to an associated helper object.

6. You want to avoid multiple inheritance. Which design pattern would you choose?

a) Abstraction-Occurrence Pattern

b) Player-Role Pattern

c) General Hierarchy Pattern

d) Singleton Pattern

[View Answer](#)

Answer: b

Explanation: The answer is self-explanatory.

7. The recurring aspects of designs are called design

- a) patterns
- b) documents
- c) structures
- d) methods

[View Answer](#)

Answer: a

Explanation: A pattern is the outline of a reusable solution to a general problem encountered in a particular context.

8. Design pattern is a solution to a problem that occurs repeatedly in a variety of contexts.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Each design pattern has a name and use of each pattern has consequences.

9. Which pattern prevents one from creating more than one instance of a variable?

- a) Factory Method
- b) Singleton
- c) Observer
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: In singleton pattern, the class itself is made responsible for keeping track of its instance. Thus it ensures that no more than one instance is created.

10. Facade pattern promotes weak coupling between subsystem and its clients.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: It is one of the patterns benefit. The facade pattern shields clients from subsystem classes and reduces the number of objects that clients deal with.

11. Which design pattern defines one-to-many dependency among objects?

- a) Singleton pattern
- b) Facade Pattern
- c) Observer pattern
- d) Factory method pattern

[View Answer](#)

Answer: c

Explanation: Observer pattern defines one-to-many dependency among objects so that when one object changes its state, all its dependents are notified.

12. Facade pattern couples a subsystem from its clients.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: A facade can be a single entry point to each subsystem level. It decouples the subsystem.

13. In factory method pattern, the framework must instantiate classes but it only knows about the abstract classes, which it cannot initiate. How would one solve this problem?

a) encapsulating the knowledge of which document subclass to is to be created and

b) moving this knowledge out of the framework

c) instantiating the application specific documents without knowing their class

d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: Following all the options in order will solve the factory method problem.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Testing Techniques – 1”.

1. Which of the following term describes testing?

a) Finding broken code

b) Evaluating deliverable to find errors

c) A stage of all projects

d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Software testing is the process of evaluation a software item to detect differences between given input and expected output.

2. What is Cyclomatic complexity?

a) Black box testing

b) White box testing

c) Yellow box testing

d) Green box testing

[View Answer](#)

Answer: b

Explanation: Cyclomatic complexity measures the amount of decision logic in the program module. Cyclomatic complexity gives the minimum number of paths that can generate all possible paths through the module.

3. Lower and upper limits are present in which chart?

a) Run chart

- b) Bar chart
- c) Control chart
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: A run chart is used to monitor the behavior of a variable over time for a process or system. Run charts graphically display cycles, trends, shifts, or non-random patterns in behavior over time. It contains lower and upper limits.

4. Maintenance testing is performed using which methodology?

- a) Retesting
- b) Sanity testing
- c) Breadth test and depth test
- d) Confirmation testing

[View Answer](#)

Answer: c

Explanation: Maintenance Testing is done on the already deployed software. The deployed software needs to be enhanced, changed or migrated to other hardware. The Testing done during this enhancement, change and migration cycle is known as maintenance testing.

5. White Box techniques are also classified as

- a) Design based testing
- b) Structural testing
- c) Error guessing technique
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: The structural testing is the testing of the structure of the system or component. Structural testing is often referred to as ‘white box’ or ‘glass box’ or ‘clear-box testing’ because in structural testing we are interested in what is happening ‘inside the system/application’.

6. Exhaustive testing is

- a) always possible
- b) practically possible
- c) impractical but possible
- d) impractical and impossible

[View Answer](#)

Answer: c

Explanation: Exhaustive testing is the testing where we execute single test case for multiple test data. It means if we are using single test case for different product or module under manual testing.

testing .

7. Which of the following is/are White box technique?

- a) Statement Testing
- b) Decision Testing
- c) Condition Coverage

d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Statement testing, decision testing, condition coverage all of them uses white box technique.

8. What are the various Testing Levels?

a) Unit Testing

b) System Testing

c) Integration Testing

d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Unit, system, integration testing all of them are levels in testing.

9. Boundary value analysis belong to?

a) White Box Testing

b) Black Box Testing

c) White Box & Black Box Testing

d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Boundary value analysis is based on testing at the boundaries between partitions and checks the output with expected output.

10. Alpha testing is done at

a) Developer's end

b) User's end

c) Developer's & User's end

d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Alpha testing takes place at the developer's end. Developers observe the users and note problems. Alpha testing is testing of an application when development is about to complete. Minor design changes can still be made as a result of alpha testing.

This set of Software Engineering online test focuses on “Software Testing Techniques – 2”.

1. The testing in which code is checked

a) Black box testing

b) White box testing

c) Red box testing

d) Green box testing

[View Answer](#)

Answer: b

Explanation: White-box testing is a method of testing software that tests internal structures or workings of an application, as opposed to its functionality .

2. Testing done without planning and Documentation is called

- a) Unit testing
- b) Regression testing
- c) Adhoc testing
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Adhoc testing is used term for software testing performed without planning and documentation. The tests are intended to be run only once, unless a defect is discovered.

3. Acceptance testing is also known as

- a) Grey box testing
- b) White box testing
- c) Alpha Testing
- d) Beta testing

[View Answer](#)

Answer: d

Explanation: Acceptance testing is a test conducted to determine if the requirements of a specification or contract are met and is done by users.

4. Which of the following is non-functional testing?

- a) Black box testing
- b) Performance testing
- c) Unit testing
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Performance testing is in general testing performed to determine how a system performs in terms of responsiveness and stability under a particular workload.

5. Beta testing is done at

- a) User's end
- b) Developer's end
- c) User's & Developer's end
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: In beta testing the user evaluates the product and gives his feedback.

6. SPICE stands for

- a) Software Process Improvement and Compatibility Determination
- b) Software Process Improvement and Control Determination
- c) Software Process Improvement and Capability Determination
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: SPICE stands for Software Process Improvement and Control Determination.

7. Unit testing is done by

- a) Users
- b) Developers
- c) Customers
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Unit testing is a method by which individual units of source code, sets of one or more computer program modules together with associated control data, usage procedures, and operating procedures are tested to determine if they are fit for use.

8. Behavioral testing is

- a) White box testing
- b) Black box testing
- c) Grey box testing
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Black-box testing is a method of software testing that examines the functionality of an application without peering into its internal structures or workings.

9. Which of the following is black box testing

- a) Basic path testing
- b) Boundary value analysis
- c) Code path analysis
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Boundary value analysis is a software testing technique in which tests are designed to include representatives of boundary values.

10. Which of the following is not used in measuring the size of the software

- a) KLOC
- b) Function Points
- c) Size of module
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: KLOC and function points both can be used as size measurement for measuring the size of the software.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Testing Strategies”.

1. Software Debugging is a set of activities that can be planned in advance and conducted systematically.

- a) True

b) False

[View Answer](#)

Answer: b

Explanation: Software Testing is a set of such activities.

2. Which of the following is not a software testing generic characteristics?

- a) Different testing techniques are appropriate at different points in time
- b) Testing is conducted by the developer of the software or an independent test group
- c) Testing and debugging are different activities, but debugging must be accommodated in any testing strategy
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

3. ITG stands for

- a) instantaneous test group
- b) integration testing group
- c) individual testing group
- d) independent test group

[View Answer](#)

Answer: d

Explanation: The role of an independent test group (ITG) is to remove the inherent problems associated with letting the builder test the thing that has been built.

4. By collecting _____ during software testing, it is possible to develop meaningful guidelines to halt the testing process.

- a) Failure intensity
- b) Testing time
- c) Metrics
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: It answers questions like: “When are we done with testing?”.

5. Which of the following issues must be addressed if a successful software testing strategy is to be implemented?

- a) Use effective formal technical reviews as a filter prior to testing
- b) Develop a testing plan that emphasizes “rapid cycle testing.”
- c) State testing objectives explicitly
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the mentioned options are carried out for the purpose.

6. Test cases should uncover errors like

- a) Nonexistent loop termination
- b) Comparison of different data types

- c) Incorrect logical operators or precedence
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Test cases should uncover errors such as all the explained options and much more.

7. Which of the following errors should not be tested when error handling is evaluated?

- a) Error description is unintelligible
- b) Error noted does not correspond to error encountered
- c) Error condition causes system intervention prior to error handling
- d) Error description provide enough information to assist in the location of the cause of the error

[View Answer](#)

Answer: a

Explanation: Actually, error description does not provide enough information to assist in the location of the cause of the error.

8. What is normally considered as an adjunct to the coding step

- a) Integration testing
- b) Unit testing
- c) Completion of Testing
- d) Regression Testing

[View Answer](#)

Answer: b

Explanation: After source level code has been developed, reviewed, and verified for correspondence to component level design, unit test case design begins.

9. Which of the following is not regression test case?

- a) A representative sample of tests that will exercise all software functions
- b) Additional tests that focus on software functions that are likely to be affected by the change
- c) Tests that focus on the software components that have been changed
- d) Low-level components are combined into clusters that perform a specific software sub-function

[View Answer](#)

Answer: d

Explanation: Regression testing may be conducted manually, by re-executing a subset of all test cases or using automated capture or playback tools

10. Which testing is an integration testing approach that is commonly used when “shrink-wrapped” software products are being developed?

- a) Regression Testing
- b) Integration testing
- c) Smoke testing
- d) Validation testing

[View Answer](#)

Answer: c

Explanation: Smoke testing is designed as a pacing mechanism for time-critical projects, allowing the software team to assess its project on a frequent basis.

11. In which testing level the focus is on customer usage?

- a) Alpha Testing
- b) Beta Testing
- c) Validation Testing
- d) Both Alpha and Beta

[View Answer](#)

Answer: d

Explanation: Alpha testing is done at developer's end while beta testing is done at user's end.

12. Validation refers to the set of tasks that ensure that software correctly implements a specific function.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Its verification, while validation refers to a different set of tasks that ensure that the software that has been built is traceable to customer requirements.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Object Oriented Testing”.

1. The architecture of object-oriented software results in a series of layered subsystems that encapsulate collaborating classes.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: It is necessary to test an OO system at a variety of different levels in an effort to uncover errors that may occur as classes collaborate with one another and subsystems communicate across architectural layers.

2. The construction of object-oriented software begins with the creation of

- a) design model
- b) analysis model
- c) code levels
- d) both design and analysis model

[View Answer](#)

Answer: d

Explanation: It is due to the evolutionary nature of the OO software engineering paradigm, these models begin as relatively informal representations of system requirements and evolve into detailed models of classes, class connections and relationships, system design and allocation, and object design.

3. Which testing integrates the set of classes required to respond to one input or event for the system?

- a) cluster testing
- b) thread-based testing

- c) use-based testing
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Each thread is integrated and tested individually. Regression testing is applied to ensure that no side effects occur.

4. Which of the following is one of the steps in the integration testing of OO software?

- a) cluster testing
- b) thread-based testing
- c) use-based testing
- d) none of the mentioned

[View Answer](#)

Answer: a

Explanation: Here, a cluster of collaborating classes is exercised by designing test cases that attempt to uncover errors in the collaborations.

5. _____ methods can be used to drive validations tests

- a) Yellow-box testing
- b) Black-box testing
- c) White-box testing
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Black-box testing methods are as appropriate for OO systems as they are for systems developed using conventional software engineering methods.

6. Which of the following is a part of testing OO code?

- a) Validation tests
- b) Integration tests
- c) Class tests
- d) System tests

[View Answer](#)

Answer: c

Explanation: None.

7. The object of _____ within an OO system is to design tests that have a high likelihood of uncovering plausible bugs.

- a) Fault-based testing
- b) Integration testing
- c) Use-based testing
- d) Scenario-based testing

[View Answer](#)

Answer: a

Explanation: The object of fault-based testing within an OO system is to design tests that have a high likelihood of uncovering plausible faults.

8. What refers to the externally observable structure of an OO program?

- a) Deep structure
- b) Surface structure
- c) Core structure
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Surface structure refers to the externally observable structure of an OO program which is immediately obvious to an end-user.

9. _____ categorizes class operations based on the generic function that each performs.

- a) Category-based partitioning
- b) Attribute-based partitioning
- c) State-based partitioning
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: For example, operations in the account class can be categorized in initialization operations (open, setup), computational operations (deposit, withdraw) etc.

10. Which of the following is black-box oriented and can be accomplished by applying the same black-box methods discussed for conventional software?

- a) Conventional testing
- b) OO system validation testing
- c) Test case design
- d) Both Conventional testing and OO system validation testing

[View Answer](#)

Answer: d

Explanation: None.

11. In which of the following testing strategies, a smallest testable unit is the encapsulated class or object?

- a) Unit testing
- b) Integration testing
- c) System testing
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

12. Which of the following testing types is not a part of system testing?

- a) Recovery testing
- b) Stress testing
- c) System testing
- d) Random testing

[View Answer](#)

Answer: d

Explanation: It is a testing method at class level.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Debugging Techniques and Approaches”.

1. What is testing process' first goal?

- a) Bug prevention
- b) Testing
- c) Execution
- d) Analyses

[View Answer](#)

Answer: a

Explanation: Its better to prevent a bug rather than putting time in its testing and removal.

2. Software mistakes during coding are known as

- a) errors
- b) failures
- c) bugs
- d) defects

[View Answer](#)

Answer: c

Explanation: A software bug is an error, flaw, failure, or fault in a computer program or system that causes it to produce an incorrect or unexpected result.

3. Name an evaluation technique to assess the quality of test cases.

- a) Mutation analysis
- b) Validation
- c) Verification
- d) Performance analysis

[View Answer](#)

Answer: a

Explanation: Mutation analysis is used to design new software tests and evaluate the quality of existing software tests.

4. Test should be conducted for every possible

- a) data
- b) case
- c) variable
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: It increases the scope for code inspection.

5. Which of the following is not a part of bug report?

- a) Test case
- b) Output
- c) Software Version
- d) LOC

[View Answer](#)

Answer: d

Explanation: Line of code(LOC) is immaterial during testing, as it is an exhaustive process.

6. Which of the following is not a part of Execution Flow during debugging?

- a) Step Over
- b) Step Into
- c) Step Up
- d) Step Out

[View Answer](#)

Answer: c

Explanation: Step Into executes code, Step Out continues execution until bound value and Step Over is to execute code without stopping.

7. Cyclomatic Complexity method comes under which testing method.

- a) Yellow box
- b) White box
- c) Gray box
- d) Black box

[View Answer](#)

Answer: b

Explanation: Cyclomatic Complexity tells us about the number of independent paths in a program which is covered in white box testing.

8. Which is a black box testing technique appropriate to all levels of testing?

- a) Acceptance testing
- b) Regression testing
- c) Equivalence partitioning
- d) Quality assurance

[View Answer](#)

Answer: c

Explanation: Equivalence partitioning is a software testing technique that divides the input data of a software unit into partitions of equivalent data from which test cases can be derived.

9. Which of the following is the way of ensuring that the tests are actually testing code?

- a) Control structure testing
- b) Complex path testing
- c) Code coverage
- d) Quality assurance of software

[View Answer](#)

Answer: c

Explanation: None.

10. Effective testing will reduce _____ cost.

- a) maintenance
- b) design
- c) coding
- d) documentation

[View Answer](#)

Answer: a

Explanation: Remaining options are a part of development process.

11. Which of the following is a common pointer problem?

- a) Data sharing errors
- b) Accessing data elements of the wrong type
- c) Attempting to use memory areas after freeing them
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: These are the common errors programmers make while coding.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Testing Tools”.

1. Standard Enforcer is a

- a) Static Testing Tool
- b) Dynamic Testing
- c) Static & Dynamic Testing
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Static Testing tools are those that perform analysis of the program without executing them at all.

2. Many applications using static analysis find 0.1-0.2% NCSS. NCSS stands for

- a) Non-Code Source Statement
- b) Non Comment Source Sentence
- c) Non-Comment Source Statement
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

3. Which testing tool does a simple job of enforcing standards in a uniform way of many programs?

- a) Static Analyzer
- b) Code Inspector
- c) Standard Enforcer
- d) Both Code Inspector & Standard Enforcer

[View Answer](#)

Answer: d

Explanation: A standard enforcer is just like a code inspector, except that the rules are generally simpler. Standard enforcer looks at only single statements while the static analyzer looks at whole programs.

4. Software Testing with real data in real environment is known as

- a) alpha testing

- b) beta testing
- c) regression testing
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Beta testing is the last stage of testing, and normally can involve sending the product to beta test sites outside the company for real-world exposure or offering the product for a free trial download over the Internet.

5. Which of the following testing tools examine program systematically & automatically ?

- a) Code Inspector
- b) Static Analyzer
- c) Standard Enforcer
- d) Coverage Analyzer

[View Answer](#)

Answer: b

Explanation: A static analyzer operates from a pre-computed database of descriptive information derived from the source text of the program.

6. Which testing tool is responsible for documenting programs ?

- a) Test/File Generator
- b) Test Harness System
- c) Test Archiving Systems
- d) Coverage Analyzer

[View Answer](#)

Answer: c

Explanation: The answer is self-explanatory.

7. Beta Testing is done by

- a) Developers
- b) Testers
- c) Users
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

8. Standard enforcer tool looks at the whole program.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: This tool looks at only single statements.

9. Debugging Program is a program which runs concurrently with the program under test & provide commands to

- a) examine memory & registers
- b) stop execution at a particular point

- c) search for references for particular variables, constant and registers
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: Debugging is a methodical process of finding and reducing the number of bugs, or defects, in a computer program or a piece of electronic hardware, thus making it behave as expected.

10. Execution Verifier is a dynamic tool that is also known as

- a) Test File Generator
- b) Coverage Analyzer
- c) Output Comparator
- d) Test Harness System

[View Answer](#)

Answer: b

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Monitoring”.

1. Why is software difficult to build ?

- a) Controlled changes
- b) Lack of reusability
- c) Lack of monitoring
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Monitoring is a key aspect which requires much attention for a successful build.

2. Which of the following is not a conflict in software development team?

- a) Simultaneous updates
- b) Shared and common code
- c) Versions
- d) Graphics issues

[View Answer](#)

Answer: d

Explanation: These are part of design, which can be handled by the design team.

3. Which of the following lasts for the duration of the project and covers the development process?

- a) Monitoring all key parameters like cost, schedule, risks
- b) Taking corrective actions when needed
- c) Providing information on the development process in terms of metrics
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

4. Which of the following is not a typical environment in communication facilitation ?

- a) Multiple teams
- b) Multiple user groups
- c) Multiple fests
- d) Multiple locations

[View Answer](#)

Answer: c

Explanation: The answer is not related to the question.

5. Which of the following is a software process ?

- a) Analysis and design
- b) Configuration and management
- c) Business modeling
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

6. Which of the following is not included in Issues Meetings?

- a) Issues gathered the day before
- b) Regular schedule of meeting
- c) Discussion with business
- d) Attendance

[View Answer](#)

Answer: c

Explanation: Discussion with business is planning in QA Meetings.

7. Which of the following is not a part of Software Configuration Management Basics?

- a) Identification
- b) Version
- c) Auditing and Reviewing
- d) Status Accounting

[View Answer](#)

Answer: b

Explanation: None.

8. What is a collection of software elements treated as a unit for the purposes of SCM?

- a) Software Configuration Item
- b) Baseline
- c) Configuration
- d) Configuration Control Board

[View Answer](#)

Answer: a

Explanation: Software Configuration Item is a collection of software elements treated as a unit for the purposes of SCM.

9. What is one or more software configuration items that have been formally reviewed and agreed upon and serve as a basis for further development?

- a) Configuration
- b) Baseline
- c) Software
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Baseline – One or more software configuration items that have been formally reviewed and agreed upon and serve as a basis for further development.

10. What is validating the completeness of a product?

- a) Identification
- b) Software
- c) Auditing and Reviewing
- d) Status Accounting

[View Answer](#)

Answer: c

Explanation: Auditing and Reviewing is validating the completeness of a product and that SCM procedures are being followed.

11. What is group with the responsibility for reviewing and approving changes to baselines?

- a) Software Configuration Item
- b) Baseline
- c) Configuration
- d) Configuration Control Board

[View Answer](#)

Answer: d

Explanation: Configuration Control Board (CCB) is the group with the responsibility for reviewing and approving changes to baselines.

12. In many settings PM is a center of communication hub

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: None.

13. What is a specific instance of a baseline or configuration item?

- a) Software
- b) Configuration
- c) Version
- d) Status Accounting

[View Answer](#)

Answer: c

Explanation: Even the smallest development projects should utilize some sort of version and baseline control tool.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Quality Management”.

1. Quality Management in software engineering is also known as

- a) SQA
- b) SQM
- c) SQI
- d) SQA and SQM

[View Answer](#)

Answer: a

Explanation: Quality Management is also called software quality assurance (SQA) which serves as an umbrella activity that is applied throughout the software process.

2. Quality also can be looked at in terms of user satisfaction which includes

- a) A compliant product
- b) Good quality output
- c) Delivery within budget and schedule
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: This focuses on how well the implementation follows the design and how well the resulting system meets its requirements .

3. Inspections and testing are what kinds of Quality Costs?

- a) Prevention
- b) Internal Failure
- c) External Failure
- d) Appraisal

[View Answer](#)

Answer: d

Explanation: Inspections, equipment calibration, maintenance and testing appraisal costs is quality management.

4. According to Pareto's principle, x% of defects can be traced to y% of all causes. What are the values of x and y?

- a) 60, 40
- b) 70, 30
- c) 80, 20
- d) No such principle exists

[View Answer](#)

Answer: c

Explanation: The Pareto principle (also known as the 80–20 rule) states that, for many events, roughly 80% of the effects come from 20% of the causes.

5. What is Six Sigma?

- a) It is the most widely used strategy for statistical quality assurance
- b) The “Six Sigma” refers to six standard deviations
- c) It is the most widely used strategy for statistical quality assurance AND The “Six Sigma” refers to six standard deviations
- d) A Formal Technical Review(FTR) guideline for quality walkthrough or inspection

[View Answer](#)

Answer: c

Explanation: The Six Sigma uses data and statistical analysis to measure and improve a company's operational performance .

6. Which of the following is not a core step of Six Sigma?

- a) Define
- b) Control
- c) Measure
- d) Analyse

[View Answer](#)

Answer: b

Explanation: It is an additional step added for existing processes and can be done in parallel.

7. Non-conformance to software requirements is known as

- a) Software availability
- b) Software reliability
- c) Software failure
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Given a set of valid requirements, all software failures can be traced to design or implementation problems.

8. Software safety is equivalent to software reliability.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Software reliability uses statistical analysis to determine the likelihood that a software failure will occur; however, the failure may not necessarily result in a hazard or mishap.

9. Misinterpretation of customer communication is a sample of possible cause defects.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Translation gap between the client and the developer often leads to software defects.

10. What kind of quality cost is incurred when an error is detected in a product prior to shipment?

- a) Prevention
- b) Internal Failure
- c) External Failure
- d) Appraisal

[View Answer](#)

Answer: b

Explanation: This includes rework, repair, and failure mode analysis.

11. The degree to which the design specifications are followed during manufacturing is known as
- a) Quality of design
 - b) Quality of conformance
 - c) Quality of testing
 - d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: This focuses on how well the implementation follows the design and how well the resulting system meets its requirements.

12. Quality of design encompasses requirements and specifications of the system.

- a) True

- b) False

[View Answer](#)

Answer: a

Explanation: The characteristic that designers specify for an item are cover in quality of design.

13. According to ISO 9001, inspection and testing comes under which management responsibility?

- a) Process control

- b) Document control

- c) Control of nonconforming products

- d) Servicing

[View Answer](#)

Answer: a

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Re-engineering”.

1. What are the problems with re-structuring?

- a) Loss of comments

- b) Loss of documentation

- c) Heavy computational demands

- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Restructuring doesn't help with poor modularisation where related components are dispersed throughout the code.

2. Which of the following is not a module type?

- a) Object modules

- b) Hardware modules

- c) Functional modules

- d) Process support modules

[View Answer](#)

Answer: a

Explanation: Except option a all other are module types.

3. Reverse engineering of data focuses on

- a) Internal data structures
- b) Database structures
- c) ALL of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

4. Forward engineering is not necessary if an existing software product is producing the correct output.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Forward engineering refers to taking a high-level model and using it to build a more complex lower-level implementation.

5. Which of the following is not an example of a business process?

- a) designing a new product
- b) hiring an employee
- c) purchasing services
- d) testing software

[View Answer](#)

Answer: d

Explanation: It is a part of development phase.

6. Which of the following is a data problem?

- a) hardware problem
- b) record organisation problems
- c) heavy computational demands
- d) loss of comments

[View Answer](#)

Answer: b

Explanation: Records representing the same entity may be organised differently in different programs.

7. When does one decides to re-engineer a product?

- a) when tools to support restructuring are disabled
- b) when system crashes frequently
- c) when hardware or software support becomes obsolete
- d) subsystems of a larger system require few maintenance

[View Answer](#)

Answer: c

Explanation: Re-engineering involves putting in the effort to make the system easier to maintain.

8. Which of the following is not a business goal of re-engineering ?

- a) Cost reduction
- b) Time reduction
- c) Maintainability
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: No such goal is mentioned which is not a business goal, so option d is correct here.

9. Which of these benefits can be achieved when software is restructured?

- a) Higher quality programs
- b) Reduced maintenance effort
- c) Software easier to test
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: The answer is self explanatory.

10. Data re-engineering may be part of the process of migrating from a file-based system to a DBMS-based system or changing from one DBMS to another.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Data re-engineering involves analyzing and reorganizing the data structures in a program.

11. BPR stands for

- a) Business process re-engineering
- b) Business product re-engineering
- c) Business process requirements
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: The answer is self explanatory.

12. Source code translation is a part of which re-engineering technique?

- a) Data re-engineering
- b) Refactoring
- c) Restructuring
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Restructuring involves automatic conversion from unstructured to structured code.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Reverse Engineering”.

1. In reverse engineering process, what refers to the sophistication of the design information that can be extracted from the source code?

- a) interactivity
- b) completeness
- c) abstraction level
- d) direction level

[View Answer](#)

Answer: c

Explanation: None.

2. In reverse engineering, what refers to the level of detail that is provided at an abstraction level?

- a) interactivity
- b) completeness
- c) abstraction level
- d) directionality

[View Answer](#)

Answer: b

Explanation: None.

3. The core of reverse engineering is an activity called

- a) restructure code
- b) directionality
- c) extract abstractions
- d) interactivity

[View Answer](#)

Answer: c

Explanation: The engineer must evaluate the old program and extract a meaningful specification of the processing that is performed, the user interface that is applied, and the program data structures or database that is used.

4. What have become de rigueur for computer-based products and systems of every type?

- a) GUIs
- b) Candidate keys
- c) Object model
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Therefore, the redevelopment of user interfaces has become one of the most common types of re-engineering activity. But before a user interface can be rebuilt, reverse engineering should occur.

5. Forward engineering is also known as

- a) extract abstractions
- b) renovation
- c) reclamation
- d) both renovation and reclamation

[View Answer](#)

Answer: d

Explanation: Forward engineering, also called renovation or reclamation , not only recovers design information from existing software, but uses this information to alter or reconstitute the existing system in an effort to improve its overall quality.

6. Reverse engineering is the process of deriving the system design and specification from its
- a) GUI
 - b) Database
 - c) Source code
 - d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: None

7. Reverse engineering techniques for internal program data focus on the definition of classes of objects.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: This is accomplished by examining the program code with the intent of grouping related program variables.

8. Which of the following steps may not be used to define the existing data model as a precursor to re-engineering a new database model:

- a) Build an initial object model
- b) Determine candidate keys
- c) Refine the tentative classes
- d) Discover user interfaces

[View Answer](#)

Answer: d

Explanation: Once information defined in the preceding steps is known, a series of transformations can be applied to map the old database structure into a new database structure.

9. Much of the information necessary to create a behavioral model can be obtained by observing the external manifestation of the existing

- a) candidate keys
- b) interface
- c) database structure
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: The GUI or the interface provides the base for the behavioral model.

10. Extracting data items and objects, to get information on data flow, and to understand the existing data structures that have been implemented is sometimes called

- a) data analysis
- b) directionality

- c) data extraction
- d) client applications

[View Answer](#)

Answer: a

Explanation: None.

11. Reverse engineering and Re-engineering are equivalent processes of software engineering.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Re engineering is a process of analysis and change whereby a system is modified by first reverse engineering and then forward engineering.

12. Transformation of a system from one representational form to another is known as

- a) Re-factoring
- b) Restructuring
- c) Forward engineering
- d) Both Re-factoring and Restructuring

[View Answer](#)

Answer: d

Explanation: None.

13. Which of the following is not an objective of reverse engineering?

- a) to reduce maintenance effort
- b) to cope with complexity
- c) to avoid side effects
- d) to assist migration to a CASE environment

[View Answer](#)

Answer: d

Explanation: Reverse engineering helps us to detect side effects rather than avoiding them.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Computer Aided Software Engineering”.

1. Which of the following is software engineer’s primary characteristics?

- a) A collection of useful tools that will help in every step of building a product
- b) An organized layout that enables tools to be found quickly and used efficiently
- c) A skilled artisan who understands how to use the tools in an effective manner
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

2. Database management software serves as a foundation for the establishment of a CASE database (repository) that we call

- a) project database
- b) system database

- c) analysis and design tools
- d) prototyping tools

[View Answer](#)

Answer: a

Explanation: Given the emphasis on configuration objects, database management tools for CASE are evolving from relational database management systems to object oriented database management systems.

3. What enables a software engineer to define screen layout rapidly for interactive applications?

- a) Analysis and design tools
- b) Tool kit
- c) Screen painters
- d) PRO/SIM tools

[View Answer](#)

Answer: c

Explanation: More sophisticated CASE prototyping tools enable the creation of a data design, coupled with both screen and report layouts.

4. _____ tools assist in the planning, development, and control in CASE.

- a) Dynamic measurement
- b) Data acquisition
- c) Test management
- d) Cross-functional tools

[View Answer](#)

Answer: c

Explanation: None.

5. Which tools cross the bounds of the preceding categories?

- a) Data acquisition
- b) Dynamic measurement
- c) Cross-functional tools
- d) Simulation

[View Answer](#)

Answer: c

Explanation: None.

6. Which environment demands specialized testing tools that exercise the graphical user interface and the network communications requirements for client and server?

- a) Dynamic analysis
- b) Client/Server
- c) Re-engineering
- d) Test management

[View Answer](#)

Answer: b

Explanation: A client/server architecture is GUI based.

7. Which tools are used to modify online database systems?

- a) Reverse engineering specification tools

- b) Code restructuring and analysis tools
- c) Test management tools
- d) online system re-engineering tools

[View Answer](#)

Answer: d

Explanation: For example these tools convert IDMS or DB2 files into entity-relationship format.

8. Which is the definition of objects in the database that leads directly to a standard approach for the creation of software engineering documents.

- a) Document standardization
- b) Data integrity
- c) Information sharing
- d) Data/data integration

[View Answer](#)

Answer: a

Explanation: None.

9. Which of the following term is best defined by the statement: “CASE tools and the target applications are isolated from physical storage so they are not affected when the hardware configuration is changed.”?

- a) Non-redundant data storage
- b) Data independence
- c) Data dependence
- d) Ad Hoc data queries and reports

[View Answer](#)

Answer: b

Explanation: None.

10. Which of the following term is best define by the statement:”Each object is stored only once, but is accessible by all CASE tools that need it.”?

- a) Non-redundant data storage
- b) Data independence
- c) Transaction control
- d) Ad Hoc data queries and reports

[View Answer](#)

Answer: a

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Using CASE Tools”.

1. CASE stands for

- a) Cost Aided Software Engineering
- b) Computer Aided Software Engineering
- c) Control Aided Software Engineering
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: CASE tools purpose is to make the work of software development and maintenance easier and more reliable.

2. CASE tools are used only during the software testing phase.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: CASE tools support the developer when performing one or more phases of the software life cycle and/or support software maintenance.

3. Which of the following is not a type of CASE tool?

a) Lower

b) Classic

c) Real

d) Middle

[View Answer](#)

Answer: d

Explanation: Lower and Upper CASE tools support analysis and design.

4. What stores all changes and info related to the project from development through maintenance in CASE tools?

a) Database

b) Repository

c) Registers

d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: The main component of real CASE tools is the repository which stores all changes.

5. What kind of support is provided by the Repository Query CASE tool?

a) Editing text and diagrams

b) Display of parts of the design texts

c) Cross referencing queries and requirements tracing

d) Display of parts of the design texts AND Cross referencing queries and requirements tracing

[View Answer](#)

Answer: d

Explanation: None.

6. What kind of support is provided by the Code Generation CASE tool?

a) Cross referencing queries and requirements tracing

b) Transformation of design records into application software

c) Compiling, interpreting or applying interactive debugging code

d) Transformation of design records into application software AND Compiling, interpreting or applying interactive debugging code

[View Answer](#)

Answer: b

Explanation: Code Generation tool aids in transformation of design records into prototypes or application software compatible with a given software development language.

7. Logical design errors can be resolved using both classic and real CASE tools.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Classic CASE tools include interactive debuggers and compilers which do not serve the required purpose.

8. CASE-generated updated documentation enables easier and more reliable identification of software failure causes.

a) True

b) False

[View Answer](#)

Answer: a

Explanation: None.

9. What kind of support is provided by the Code Editing CASE tool?

a) Management of design documents and software code versions

b) Transformation of design records into application software

c) Compiling, interpreting or applying interactive debugging code

d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Code editing tool serves the purpose of compiling, interpreting or applying interactive debugging code specific coding language or development tool.

10. Use of the repository assures automated coding and documentation of corrections.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Use of the repository assures consistency of new applications and improvements with existing software systems.

11. Which of the following is a drawback of using CASE tool?

a) Standardization of notations and diagrams

b) Communication between development team member

c) Costs associated with the use of the tool

d) Reduction of time and effort

[View Answer](#)

Answer: c

Explanation: Using CASE tools is an expensive approach.

12. An upper CASE tool is also referred to as a back end CASE.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: An upper CASE tool (front end CASE) provides support for the early stages in the systems development life cycle such as requirements analysis and design.

13. CASE tools are mainly used while developing which of the following methodologies?

- a) RAD
- b) JAD
- c) OO Approach
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: CASE tools are used in various stages of the Software Development Life Cycle.



SCHOOL OF COMPUTING
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
SUMMER SEMESTER – 2020-2021
QUIZ

Course Code / Course Name : 1151CS112 / OBJECT ORIENTED SOFTWARE ENGINEERING

Year / Semester : 2020-2021/ SUMMER- S7 & S8

Faculty Name : Ms. KARTHIKA S

1. The most important feature of spiral model is
 - (A) requirement analysis.
 - (B) risk management.
 - (C) quality management.
 - (D) configuration management.

Ans: B

2. The worst type of coupling is
 - (B) Data coupling.
 - (B) control coupling.
 - (C) stamp coupling.
 - (D) content coupling.

Ans: D

3. IEEE 830-1993 is a IEEE recommended standard for
 - i. Software requirement specification.
 - ii. Software design.
 - iii. Testing.

Both (A) and (B) **Ans: A**

4. Changes made to an information system to add the desired but not necessarily the required features is called
 - i. Preventative maintenance.
 - ii. Adaptive maintenance.
 - iii. Corrective maintenance.
 - iv. Perfective maintenance.

Ans: D

5. All the modules of the system are integrated and tested as complete system in the case of
 - i. Bottom up testing
 - (B) Top-down testing
 - (C) Sandwich testing
 - (D) Big-Bang testing

Ans: D

6. If the objects focus on the problem domain, then we are concerned with
 - i. Object Oriented Analysis.
 - ii. Object Oriented Design
 - iii. Object Oriented Analysis & Design
 - iv. None of the above

Ans: A

7. SRS is also known as specification of
 - i. White box testing
 - (B) Stress testing
 - (C) Integrated testing
 - (D) Black box testing

Ans: D

8. A COCOMO model is

 - i. Common Cost Estimation Model.
 - ii. Constructive Cost Estimation Model.
 - iii. Complete Cost Estimation Model.
 - iv. Comprehensive Cost Estimation Model.

Ans: B

Ans: C

- 10.** Coupling and cohesion can be represented using a
i. cause-effect graph **(B)** dependence matrix
 (C) Structure chart **(D)** SRS

Ans: B

11. Each time a defect gets detected and fixed, the reliability of a software product

 - i. increases. (B) decreases.
 - (C) remains constant. (D) cannot say anything.

Ans: A

- 12.** The level at which the software uses scarce resources is
i. reliability (B) efficiency
(C) portability (D) all of the above

Ans: B

- Ans. B**

13. Alpha and Beta Testing are forms of
i. Acceptance testing **(B) Integration testing**
(C) System Testing **(D) Unit testing**

Ans: A

- Ans. A**

14. An object encapsulates

 - i. Data (B) Behaviour
 - (C) State** (D) Both Data and behaviour

Ans: D

Ans: B

- 16.** Changes made to the system to reduce the future system failure chances is called
i. Preventive Maintenance **(B)** Adaptive Maintenance
 (C) Corrective Maintenance **(D)** Perfective Maintenance

(c)

17. The model that assumes that effort and development time are functions of product size alone is

 - i. Basic COCOMO model **(B)** Intermediate COCOMO model
 - (C)** Detailed COCOMO model **(D)** All the three COCOMO models

Ans: A

- 18.** The testing that focuses on the variables is called
i. black box testing **(B)** white box testing
(C) data variable testing **(D)** data flow testing

Ans: A

- 19.** Which phase is not available in software life cycle?
i. Coding **(B)** Testing
(C) Maintenance **(D)** Abstraction

Ans: D

- 20.** Which of these terms is a level name in the Capability Maturity Model?
i. Ad hoc **(B)** Repeatable
(C) Reusable **(D)** Organized

Ans: C

- 21.** Top down approach is used for
i. development. **(B)** identification of faults.
(C) testing and validation. **(D)** reverse engineering.

Ans: A

- 22.** What types of models are created during software requirements analysis?
i. Functional and behavioral **(B)** Algorithmic and data structure
(C) Architectural and structural **(D)** Usability and reliability

Ans: A

- 23.** Software feasibility is based on which of the following
i. business and marketing concerns
ii. scope, constraints, market
iii. technology, finance, time, resources
iv. technical prowess of the developers

Ans: C

- 24.** FP-based estimation techniques require problem decomposition based on
(A) information domain values **(B)** project schedule
(C) software functions **(D)** process activities

Ans: C

- 25.** The goal of quality assurance is to provide management with the data needed to determine which software engineers are producing the most defects.
(A) True **(B)** False

Ans: B

- 26. What is a class?**

- A. An abstract representation of something with certain properties .
B. A concrete representation of something with certain properties .
C. An abstract representation of something with certain properties and abilities.
D. A concrete representation of something with certain properties and abilities

Ans: C

- 27. Major elements of object model are**

A-Class, Object, Method, Interface

B-Class,Property,Inheritance

C- Abstraction,Encapsulation, Modularity, Hierarchy

D-Abstraction,Class,Polymorphism

Ans: C

28. _____ is a blueprint or prototype that defines the variables and the methods common to all objects of a certain kind. Select the best word to complete this sentence.

- A.Class
- B. Inheritance
- C. Polymorphism
- D. Aggregation

Ans: A

29. Which of the following are not in composition in " Car as a system"

- A. Car and seat covers
- B. Car and music system
- C. Car and color
- D. Car and engine

Ans: B

30. Which diagram is NOT commonly used for illustrating use cases?

- (a) system sequence diagram
- (b) activity diagram
- (c) use case diagram
- (d) collaboration diagram

Ans: D

31. Language is object-oriented if and only if it satisfies the following requirements:

A- It supports objects that are data abstractions with an interface of named operations and a hidden local state.

B- Objects have an associated type [class].

C- Types [classes] may inherit attributes from supertypes [superclasses].

D- a,b,c

Ans: D

32. -----is the property of an object through which its existence transcends time (i.e., the object continues to exist after its creator ceases to exist) and/or space (i.e., the object's location moves from the address space in which it was created).

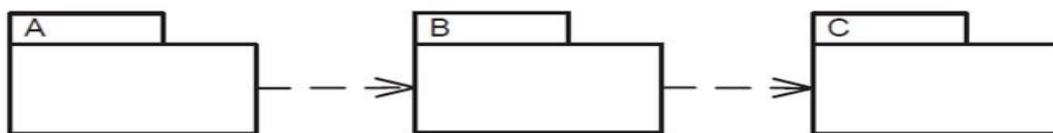
- A. Typing
- B. Concurrency

C. Persistence

D. Threading

Ans:C

33. What is a true statement about the following packages



- (a) If package C changes, package B must be inspected for necessary changes, and if there are any, package A may have to be adapted as well.
- (b) If package B changes, package A and package C must be inspected for necessary changes.
- (c) Packages should be designed so that a change in one package does not have an effect to other packages.
- (d) If package C changes, package A has to be examined (as well as B), because dependencies are transitive.

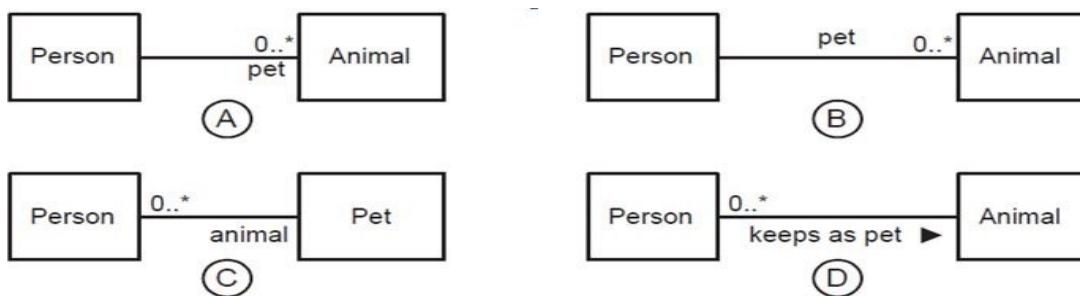
Ans: A

34. If you need to show the physical relationship between software components and the hardware in the delivered system, which diagram can you use

- (a) component diagram
- (b) deployment diagram
- (c) class diagram
- (d) network diagram

Ans: B

35. How do you express that some persons keep animals as pets?



- (a) diagram A
- (b) diagram B
- (c) diagram C
- (d) diagram D

Ans: D

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Engineering Ethics – 1”.

1. Choose the correct option in terms of Issues related to professional responsibility

- a) Confidentiality
- b) Intellectual property rights
- c) Both Confidentiality & Intellectual property rights
- d) Managing Client Relationships

[View Answer](#)

Answer: c

Explanation: Engineers should normally respect the confidentiality of their employers or clients irrespective of whether or not a formal confidentiality agreement has been signed.

They should be aware of local laws governing the use of intellectual property such as patents, copyright, etc.

2. “Software engineers should not use their technical skills to *misuse* other people’s computers.” Here the term *misuse* refers to:

- a) Unauthorized access to computer material
- b) Unauthorized modification of computer material
- c) Dissemination of viruses or other malware
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

3. Explain what is meant by *PRODUCT* with reference to one of the eight principles as per the ACM/IEEE Code of Ethics ?

- a) The product should be easy to use
- b) Software engineers shall ensure that their products and related modifications meet the highest professional standards possible
- c) Software engineers shall ensure that their products and related modifications satisfy the client
- d) It means that the product designed /created should be easily available

[View Answer](#)

Answer: b

Explanation: None.

4. Identify an ethical dilemma from the situations mentioned below:

- a) Your employer releases a safety-critical system without finishing the testing of the system
- b) Refusing to undertake a project
- c) Agreement in principle with the policies of senior management
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

5. Identify the correct statement: “Software engineers shall

- a) act in a manner that is in the best interests of his expertise and favour.”

- b) act consistently with the public interest.”
- c) ensure that their products only meet the SRS.”
- d) all of the mentioned

[View Answer](#)

Answer: b

Explanation: Software engineers shall act in a manner that is in the best interests of their client and employer consistent with the public interest and shall ensure that their products and related modifications meet the highest professional standards possible. Thus options a & c are ruled out.

6. Select the incorrect statement: “Software engineers should
- a) not knowingly accept work that is outside your competence.”
 - b) not use your technical skills to misuse other people’s computers.”
 - c) be dependent on their colleagues.”
 - d) maintain integrity and independence in their professional judgment.”

[View Answer](#)

Answer: c

Explanation: None.

7. Efficiency in a software product does not include _____
- a) responsiveness
 - b) licensing
 - c) memory utilization
 - d) processing time

[View Answer](#)

Answer: b

Explanation: Licensing of a software product comes under corporate part of the software company.

8. As per an IBM report, “31% of the projects get cancelled before they are completed, 53% overrun their cost estimates by an average of 189% and for every 100 projects, there are 94 restarts”. What is the reason for these statistics ?

- a) Lack of adequate training in software engineering
- b) Lack of software ethics and understanding
- c) Management issues in the company
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Option b & c are a part of Software Engineering as a subject, hence option a covers them both.

9. The reason for software bugs and failures is due to
- a) Software companies
 - b) Software Developers
 - c) Both Software companies and Developers
 - d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Software companies are responsible for making policies and providing working

atmosphere for the software development, so in turn these companies become a part of software development process. Bugs from developers side is no new thing. Thus option c answers the question.

10. Company has latest computers and state-of the- art software tools, so we shouldn't worry about the quality of the product.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: The infrastructure is only one of the several factors that determine the quality of the product.

This set of Software Engineering Interview Questions and Answers focuses on “Software Engineering Ethics – 2”.

1. Which of these are not among the eight principles followed by Software Engineering Code of Ethics and Professional Practice ?

a) PUBLIC

b) PROFESSION

c) PRODUCT

d) ENVIRONMENT

[View Answer](#)

Answer: d

Explanation: Rest all are clauses for software ethics, environment does not focus on specific clause nor its of importace related to question.

2. What is a Software ?

a) Software is set of programs

b) Software is documentation and configuration of data

c) Software is set of programs, documentation & configuration of data

d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Software is not just set of program but it is also associated documentation and configuration of data to make program run.

3. Which of these does not account for software failure ?

a) Increasing Demand

b) Low expectation

c) Increasing Supply

d) Less reliable and expensive

[View Answer](#)

Answer: c

Explanation: Increasing supply will lead to more production and not failure.

4. What are attributes of good software ?

a) Software maintainability

- b) Software functionality
- c) Software development
- d) Software maintainability & functionality

[View Answer](#)

Answer: d

Explanation: Good software should deliver the required functionality, maintainability. Software development is not an attribute but a fundamental.

5. Which of these software engineering activities are not a part of software processes ?

- a) Software dependence
- b) Software development
- c) Software validation
- d) Software specification

[View Answer](#)

Answer: a

Explanation: Software dependence is an attribute and not an engineering activity for process.

6. Which of these is incorrect ?

- a) Software engineering belongs to Computer science
- b) Software engineering is a part of more general form of System Engineering
- c) Computer science belongs to Software engineering
- d) Software engineering is concerned with the practicalities of developing and delivering useful software

[View Answer](#)

Answer: c

Explanation: Software engineering is a vast sub domain which comes under computer science which is main domain.

7. Which of these is true ?

- a) Generic products and customized products are types of software products
- b) Generic products are produced by organization and sold to open market
- c) Customized products are commissioned by particular customer
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All of them are true.

8. Which of these does not affect different types of software as a whole?

- a) Heterogeneity
- b) Flexibility
- c) Business and social change
- d) Security

[View Answer](#)

Answer: b

Explanation: Option b & c are a part of Software Engineering as a subject,hence option a covers them both.

9. The fundamental notions of software engineering does not account for ?

- a) Software processes
- b) Software Security
- c) Software reuse
- d) Software Validation

[View Answer](#)

Answer: d

Explanation: Software validation is an activity for software process and not the fundamental for engineering.

10. Which of these is not true ?

- a) Web has led to availability of software services and possibility of developing highly distributed service based systems
- b) Web based systems have led to degradation of programming languages
- c) Web brings concept of software as service
- d) Web based system should be developed and delivered incrementally

[View Answer](#)

Answer: b

Explanation: Web based systems has led to important advances in programming languages.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Life Cycle Models”.

1. Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code).

- a) 100-200
- b) 200-400
- c) 400-1000
- d) above 1000

[View Answer](#)

Answer: a

Explanation: Build & Fix Model is suitable for small projects & programming exercises of 100 or 200 lines.

2. RAD stands for

- a) Relative Application Development
- b) Rapid Application Development
- c) Rapid Application Document
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

3. Which one of the following models is not suitable for accommodating any change?

- a) Build & Fix Model
- b) Prototyping Model
- c) RAD Model

d) Waterfall Model

[View Answer](#)

Answer: d

Explanation: Real projects rarely follow the sequential flow that the Waterfall Model proposes.

4. Which is not one of the types of prototype of Prototyping Model?

- a) Horizontal Prototype
- b) Vertical Prototype
- c) Diagonal Prototype
- d) Domain Prototype

[View Answer](#)

Answer: c

Explanation: There is no such thing as Diagonal Prototype whereas other options have their respective definitions.

5. Which one of the following is not a phase of Prototyping Model?

- a) Quick Design
- b) Coding
- c) Prototype Refinement
- d) Engineer Product

[View Answer](#)

Answer: b

Explanation: A prototyping model generates only a working model of a system.

6. Which of the following statements regarding Build & Fix Model is wrong?

- a) No room for structured design
- b) Code soon becomes unfixable & unchangeable
- c) Maintenance is practically not possible
- d) It scales up well to large projects

[View Answer](#)

Answer: d

Explanation: Build & Fix Model is suitable for 100-200 LOC

7. RAD Model has

- a) 2 phases
- b) 3 phases
- c) 5 phases
- d) 6 phases

[View Answer](#)

Answer: c

Explanation: RAD Model consists of five phases namely: Business modeling, Data modeling, Process modeling, Application generation and Testing & Turnover.

8. What is the major drawback of using RAD Model?

- a) Highly specialized & skilled developers/designers are required
- b) Increases reusability of components
- c) Encourages customer/client feedback
- d) Increases reusability of components, Highly specialized & skilled developers/designers are

required

[View Answer](#)

Answer: d

Explanation: The client may create an unrealistic product vision leading a team to over or under-develop functionality. Also, the specialized & skilled developers are not easily available.

9. SDLC stands for

- a) Software Development Life Cycle
- b) System Development Life cycle
- c) Software Design Life Cycle
- d) System Design Life Cycle

[View Answer](#)

Answer: a

Explanation: None.

10. Which model can be selected if user is involved in all the phases of SDLC?

- a) Waterfall Model
- b) Prototyping Model
- c) RAD Model
- d) both Prototyping Model & RAD Model

[View Answer](#)

Answer: c

Explanation: None.

This set of Software Engineering Questions and Answers for Campus interviews focuses on “Evolutionary Software Process Models”.

1. Which one of the following is not an Evolutionary Process Model?

- a) WINWIN Spiral Model
- b) Incremental Model
- c) Concurrent Development Model
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

2. The Incremental Model is a result of combination of elements of which two models?

- a) Build & FIX Model & Waterfall Model
- b) Linear Model & RAD Model
- c) Linear Model & Prototyping Model
- d) Waterfall Model & RAD Model

[View Answer](#)

Answer: c

Explanation: Each linear sequence produces a deliverable “increment” of the software and particularly when we have to quickly deliver a limited functionality system.

3. What is the major advantage of using Incremental Model?

- a) Customer can respond to each increment

- b) Easier to test and debug
- c) It is used when there is a need to get a product to the market early
- d) Easier to test and debug & It is used when there is a need to get a product to the market early

[View Answer](#)

Answer: d

Explanation: Incremental Model is generally easier to test and debug than other methods of software development because relatively smaller changes are made during each iteration and is popular particularly when we have to quickly deliver a limited functionality system. However, option “a” can be seen in other models as well like RAD model, hence option “d” answers the question.

4. The spiral model was originally proposed by

- a) IBM
- b) Barry Boehm
- c) Pressman
- d) Royce

[View Answer](#)

Answer: b

Explanation: None.

5. The spiral model has two dimensions namely _____ and _____

- a) diagonal, angular
- b) radial, perpendicular
- c) radial, angular
- d) diagonal, perpendicular

[View Answer](#)

Answer: c

Explanation: The radial dimension of the model represents the cumulative costs and the angular dimension represents the progress made in completing each cycle. Each loop of the spiral from X-axis clockwise through 360° represents one phase.

6. How is WINWIN Spiral Model different from Spiral Model?

- a) It defines tasks required to define resources, timelines, and other project related information
- b) It defines a set of negotiation activities at the beginning of each pass around the spiral
- c) It defines tasks required to assess both technical and management risks
- d) It defines tasks required to construct, test, install, and provide user support

[View Answer](#)

Answer: b

Explanation: Except option “b” all other tasks/activities are present in Spiral Model as well.

7. Identify the disadvantage of Spiral Model.

- a) Doesn’t work well for smaller projects
- b) High amount of risk analysis
- c) Strong approval and documentation control
- d) Additional Functionality can be added at a later date

[View Answer](#)

Answer: a

Explanation: All other options are the advantages of Spiral Model.

8. Spiral Model has user involvement in all its phases.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: None.

9. How is Incremental Model different from Spiral Model?

- a) Progress can be measured for Incremental Model
- b) Changing requirements can be accommodated in Incremental Model
- c) Users can see the system early in Incremental Model
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

10. If you were to create client/server applications, which model would you go for?

- a) WINWIN Spiral Model
- b) Spiral Model
- c) Concurrent Model
- d) Incremental Model

[View Answer](#)

Answer: c

Explanation: When applied to client/server applications, the concurrent process model defines activities in two dimensions: a system dimension and a component dimension. Thus Concurrency is achieved by system and component activities occurring simultaneously and can be modeled using the state-oriented approach.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Selection of a Life Cycle Model”.

1. Selection of a model is based on

- a) Requirements
- b) Development team & Users
- c) Project type and associated risk
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Each model has to have some requirements, a team of developers, users and the risk involved in developing a project.

2. Which two models doesn't allow defining requirements early in the cycle?

- a) Waterfall & RAD
- b) Prototyping & Spiral
- c) Prototyping & RAD
- d) Waterfall & Spiral

[View Answer](#)

Answer: b

Explanation: Prototyping Model starts with a requirements analysis phase including techniques like FAST, QFD, Brainstorming. In case of Spiral model the first phase involves activities related to customer communication like determining objectives.

3. Which of the following life cycle model can be chosen if the development team has less experience on similar projects?

- a) Spiral
- b) Waterfall
- c) RAD
- d) Iterative Enhancement Model

[View Answer](#)

Answer: a

Explanation: Relying on risk assessment/analysis provides more flexibility than required for many applications which overcomes the criteria of less experienced developers.

4. If you were a lead developer of a software company and you are asked to submit a project/product within a stipulated time-frame with no cost barriers, which model would you select?

- a) Waterfall
- b) Spiral
- c) RAD
- d) Incremental

[View Answer](#)

Answer: c

Explanation: RAD model is inapplicable to develop cheaper products/software/projects as the cost of modeling, hiring highly skilled developers/designers and automated code generation is very high. But here the cost is not an issue, so one can select this model as it reduces development time.

5. Which two of the following models will not be able to give the desired outcome if user's participation is not involved?

- a) Waterfall & Spiral
- b) RAD & Spiral
- c) RAD & Waterfall
- d) RAD & Prototyping

[View Answer](#)

Answer: d

Explanation: Active Participation of user is involved in all the four phases of RAD model and in case of the Prototyping model we need user's presence/involvement every time a new prototype is build or designed.

6. A company is developing an advance version of their current software available in the market, what model approach would they prefer ?

- a) RAD
- b) Iterative Enhancement
- c) Both RAD & Iterative Enhancement

d) Spiral

[View Answer](#)

Answer: c

Explanation: None.

7. One can choose Waterfall Model if the project development schedule is tight.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Real projects rarely follow the sequential flow and iterations in this model are handled indirectly. This changes can cause confusion as the project proceeds thereby delaying the delivery date.

8. Choose the correct option from given below:

a) Prototyping Model facilitates reusability of components

b) RAD Model Model facilitates reusability of components

c) Both RAD & Prototyping Model facilitates reusability of components

d) None

[View Answer](#)

Answer: c

Explanation: None.

9. Spiral Model has high reliability requirements.

a) True

b) False

[View Answer](#)

Answer: a

Explanation: None.

10. RAD Model has high reliability requirements.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Fourth Generation Techniques”.

1. Identify a fourth generation language(4GL) from the given below.

a) FORTRAN

b) COBOL

c) Unix shell

d) C++

[View Answer](#)

Answer: c

Explanation: Rest all are third generation languages(3GL).

2. Arrange the following activities for making a software product using 4GT.

- i. Design strategy
 - ii. Transformation into product
 - iii. Implementation
 - iv. Requirement gathering
- a) 1, 4, 3, 2
 - b) 4, 3, 1, 2
 - c) 4, 1, 3, 2
 - d) 1, 3, 4, 2

[View Answer](#)

Answer: c

Explanation: The sequence of activities mentioned in option c represents the Fourth Generation Techniques(4GT)Model.

3. 4GL is an example of _____ processing.

- a) White Box
- b) Black Box
- c) Functional
- d) Both Black Box & Functional

[View Answer](#)

Answer: d

Explanation: Functional processing/testing is also referred to as black box testing in which contents of the black box are not known.Almost anything might be referred to as a black box:an algorithm or the human mind.Functionality of the black box is understood in terms of its inputs and outputs.

4. The 4GT Model is a package of _____

- a) CASE Tools
- b) Software tools
- c) Software Programs
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: 4GT encompasses a broad array of software tools enabling the software engineer to specify the characteristics at a high level leading to an automatically generated source code based on these specifications.

5. Which of the following is not a type of a 4GL? One originating _____

- a) on Lisp machine
- b) on report generators
- c) from database query languages
- d) from GUI creators

[View Answer](#)

Answer: a

Explanation: Fifth-generation programming language are built on LISP.

6. In 4GT, we can specify the user requirements in graphic notation or small abbreviated language form.

a) True

b) False

[View Answer](#)

Answer: a

Explanation: None.

7. Productivity of software engineers is reduced in using a 4GT.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: 4GLs are more programmer-friendly and enhance programming efficiency with usage of English-like words and phrases, thereby increasing the productivity of professionals able to engage in software development.

8. Which of the following 4GLs invented at IBM and subsequently adopted by ANSI and ISO as the standard language for managing structured data?

a) SQL

b) PROLOG

c) C

d) JAVA

[View Answer](#)

Answer: a

Explanation: C & JAVA are third generation languages(3GLs) whereas PROLOG is a 5GL.

9. What is a major advantage of using a 4GT Model for producing small scale products, applications or programs ?

a) Improved productivity of software engineers

b) Reduction in software development time

c) 4GT helped by CASE tools and code generators offers a credible solution to many software problems

d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Since automated coding is done using CASE tools & code generators proponents claim a dramatic reduction in software development time.

10. Which of the following model has a major disadvantage in terms of the coding phase of a software life cycle model ?

a) Spiral Model

b) Waterfall Model

c) Rad Model

d) 4GT Model

[View Answer](#)

Answer: d

Explanation: Since coding phase is eliminated in 4GT Model,more expertise is required for analysis,design and testing activities.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Process and Product – 1”.

1. Which one of the following is not a software process quality?

- a) Productivity
- b) Portability
- c) Timeliness
- d) Visibility

[View Answer](#)

Answer: b

Explanation: Portability is a software product quality which means software can run on different hardware platforms or software environments.

2. _____ & _____ are two kinds of software products.

- a) CAD, CAM
- b) Firmware, Embedded
- c) Generic, Customised
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: rest all are sub categories/applications of option c.

3. Software costs more to maintain than it does to develop.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: For systems with a long life, maintenance costs may be several times development costs.

4. Which one of the following is not an application of embedded software product?

- a) keypad control of a security system
- b) pattern recognition game playing
- c) digital function of dashboard display in a car
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Pattern recognition uses Artificial Intelligence (AI) software.

5. Purpose of process is to deliver software

- a) in time
- b) with acceptable quality
- c) that is cost efficient
- d) both in time & with acceptable quality

[View Answer](#)

Answer: d

Explanation: Cost of a software is a management issue & is not related to process activities.

6. The work associated with software engineering can be categorized into three generic phases, regardless of application area, project size, or complexity namely the _____ phase which focuses on *what*, the _____ phase which focuses on *how* and the _____ phase which focuses on *change*.

- i. support
 - ii. development
 - iii. definition
- a) 1, 2, 3
 - b) 2, 1, 3
 - c) 3, 2, 1
 - d) 3, 1, 2

[View Answer](#)

Answer: c

Explanation: None.

7. Which of the following activities of a Generic Process framework provides a feedback report?

- a) Communication
- b) Planning
- c) Modeling & Construction
- d) Deployment

[View Answer](#)

Answer: d

Explanation: In Deployment the product is delivered to the customer who evaluates the product and provides feedback based on the evaluation.

8. Process adopted for one project is same as the process adopted from another project.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: the overall flow of activities, actions, tasks, the level of autonomy given to the software team and the inter dependencies among two process can never be the same.

9. Which one of the following is not an Umbrella Activity that complements the five process framework activities and help team manage and control progress, quality, change, and risk.

- a) Reusability management
- b) Risk management
- c) Measurement
- d) User Reviews

[View Answer](#)

Answer: d

Explanation: None.

10. Four types of change are encountered during the support phase. Which one of the following is not one that falls into such category?

- a) Translation
- b) Correction
- c) Adaptation

d) Prevention

[View Answer](#)

Answer: a

Explanation: Translation is done in the development phase.

This set of Software Engineering Questions and Answers for Freshers focuses on “Software Process and Product – 2”.

1. If a software production gets behind schedule, one can add more programmers and catch up.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: As new people are added, people who were working must spend time educating the newcomers, thereby reducing the amount of time spent on productive development effort.

2. Choose an internal software quality from given below:

a) scalability

b) usability

c) reusability

d) reliability

[View Answer](#)

Answer: c

Explanation: rest all are external qualities which are visible to the user.

3. RUP stands for _____ created by a division of _____

a) Rational Unified Program, IBM

b) Rational Unified Process, Infosys

c) Rational Unified Process, Microsoft

d) Rational Unified Process, IBM

[View Answer](#)

Answer: d

Explanation: None.

4. The RUP is normally described from three perspectives-dynamic, static & practice.What does static perspective do ?

a) It shows the process activities that are enacted

b) It suggests good practices to be used during the process

c) It shows the phases of the model over time

d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

5. The only deliverable work product for a successful project is the working program.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: A working program is only one part of a software configuration that includes many elements. Documentation provides a foundation for successful engineering and, more important, guidance for software support.

6. Which phase of the RUP is used to establish a business case for the system ?

- a) Transition
- b) Elaboration
- c) Construction
- d) Inception

[View Answer](#)

Answer: d

Explanation: None.

7. Which one of the following is not a fundamental activity for software processes in software engineering ?

- a) Software Verification
- b) Software Validation
- c) Software design and implementation
- d) Software evolution

[View Answer](#)

Answer: a

Explanation: Software Verification is accounted for in implementation & testing activity.

8. A general statement of objectives is the major cause of failed software efforts.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: A formal and detailed description of the information domain, function, behavior, performance, interfaces, design constraints and validation criteria is essential which can be determined only after thorough communication between customer and developer.

9. The longer a fault exists in software

- a) the more tedious its removal becomes
- b) the more costly it is to detect and correct
- c) the less likely it is to be properly corrected
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

10. Component-based Software Engineering allows faster delivery.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Due to using previously tested components they produce more reliable system at a faster rate.

11. Arrange the following steps to form a basic/general Engineering Process Model.

- i. Test
 - ii. Design
 - iii. Install
 - iv. Specification
 - v. Manufacture
 - vi. Maintain
- a) 2, 4, 5, 1, 6, 3
 - b) 4, 2, 5, 1, 3, 6
 - c) 2, 4, 5, 1, 3, 6
 - d) 4, 2, 5, 1, 6, 3

[View Answer](#)

Answer: b

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Agile Software Development”.

1. Select the option that suits the Manifesto for Agile Software Development

- a) Individuals and interactions
- b) Working software
- c) Customer collaboration
- d) All of the mentioned

[View Answer](#)

Answer:d

Explanation: None.

2. Agile Software Development is based on

- a) Incremental Development
- b) Iterative Development
- c) Linear Development
- d) Both Incremental and Iterative Development

[View Answer](#)

Answer:d

Explanation: The software is developed in increments with the customer specifying the requirements to be included in each increment and the highest priority is to satisfy the customer through early and continuous delivery of valuable software. They are iterative because they work on one iteration followed by improvements in next iteration

3. Which one of the following is not an agile method?

- a) XP
- b) 4GT
- c) AUP

d) All of the mentioned

[View Answer](#)

Answer:b

Explanation: The 4GT approach does not incorporate iteration and the continuous feedback, which is the fundamental aspect of an agile method.

4. Agility is defined as the ability of a project team to respond rapidly to a change.

a) True

b) False

[View Answer](#)

Answer:b

Explanation: The aim of agile methods is to reduce overheads in the software process and to be able to respond quickly to changing requirements without excessive rework.

5. How is plan driven development different from agile development ?

a) Outputs are decided through a process of negotiation during the software development process

b) Specification, design, implementation and testing are interleaved

c) Iteration occurs within activities

d) All of the mentioned

[View Answer](#)

Answer:c

Explanation: A plan-driven approach to software engineering is based around separate development stages with the outputs to be produced at each of these stages planned in advance.

6. How many phases are there in Scrum ?

a) Two

b) Three

c) Four

d) Scrum is an agile method which means it does not have phases

[View Answer](#)

Answer:b

Explanation: There are three phases in Scrum. The initial phase is an outline planning phase followed by a series of sprint cycles and project closure phase.

7. Agile methods seem to work best when team members have a relatively high skill level.

a) True

b) False

[View Answer](#)

Answer:a

Explanation: None.

8. Which of the following does not apply to agility to a software process?

a) Uses incremental product delivery strategy

b) Only essential work products are produced

c) Eliminate the use of project planning and testing

d) All of the mentioned

[View Answer](#)

Answer:c

Explanation: Testing is a major part of each software development process which can't be avoided.

9. Which three framework activities are present in Adaptive Software Development(ASD) ?

- a) analysis, design, coding
- b) requirements gathering, adaptive cycle planning, iterative development
- c) speculation, collaboration, learning
- d) all of the mentioned

[View Answer](#)

Answer:c

Explanation: None.

10. In agile development it is more important to build software that meets the customers' needs today than worry about features that might be needed in the future.

- a) True
- b) False

[View Answer](#)

Answer:a

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Extreme Programming”.

1. Incremental development in Extreme Programming (XP) is supported through a system release once every month.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Incremental development is supported through small, frequent system releases.

2. In XP, as soon as the work on a task is complete, it is integrated into the whole system.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: XP follows a continuous integration approach. After any such integration, all the unit tests in the system must pass.

3. In XP Increments are delivered to customers every _____ weeks.

- a) One
- b) Two
- c) Three
- d) Four

[View Answer](#)

Answer: b

Explanation: Extreme Programming (XP) takes an ‘extreme’ approach to iterative

development. New versions may be built several times per day, hence delivering the increment for approval every 2nd week after testing the new version.

4. User requirements are expressed as _____ in Extreme Programming.

- a) implementation tasks
- b) functionalities
- c) scenarios
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: User requirements are expressed as scenarios or user stories. These are written on cards and the development team break them down into implementation tasks. These tasks are the basis of schedule and cost estimates.

5. Is a customer involved in test development and validation in XP ?

- a) Yes
- b) No
- c) It may vary from Customer to Customer
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: The role of the customer in the testing process is to help develop acceptance tests for the stories that are to be implemented in the next release of the system. However, people adopting the customer role have limited time available and so cannot work full-time with the development team. They may feel that providing the requirements was enough of a contribution and so may be reluctant to get involved in the testing process.

6. Programmers prefer programming to testing and sometimes they take shortcuts when writing tests. For example, they may write incomplete tests that do not check for all possible exceptions that may occur.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: In XP Some tests can be very difficult to write incrementally. For example, in a complex user interface, it is often difficult to write unit tests for the code that implements the 'display logic' and workflow between screens.

7. Tests are automated in Extreme Programming.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Automated test harnesses are used to run all component tests each time that a new release is built.

8. In XP an automated unit test framework is used to write tests for a new piece of functionality before that functionality itself is implemented.

a) True

b) False

[View Answer](#)

Answer: a

Explanation: XP follows Test-first development approach.

9. Developers work individually on a release and they compare their results with other developers before forwarding that release to customers.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: XP follows the principle of pair programming which means developers work in pairs, checking each other's work and providing the support to always do a good job.

10. Which four framework activities are found in the Extreme Programming(XP) ?

a) analysis, design, coding, testing

b) planning, analysis, design, coding

c) planning, design, coding, testing

d) planning, analysis, coding, testing

[View Answer](#)

Answer: c

Explanation: XP involves the mentioned four activities, and in the same in order.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Engineering”.

1. What are the types of requirements ?

a) Availability

b) Reliability

c) Usability

d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the mentioned traits are beneficial for an effective product to be developed.

2. Select the developer-specific requirement ?

a) Portability

b) Maintainability

c) Availability

d) Both Portability and Maintainability

[View Answer](#)

Answer: d

Explanation: Availability is user specific requirement.

3. Which one of the following is not a step of requirement engineering?

a) elicitation

b) design

- c) analysis
- d) documentation

[View Answer](#)

Answer: b

Explanation: Requirement Elicitation, Requirement Analysis, Requirement Documentation and Requirement Review are the four crucial process steps of requirement engineering. Design is in itself a different phase of Software Engineering.

4. FAST stands for

- a) Functional Application Specification Technique
- b) Fast Application Specification Technique
- c) Facilitated Application Specification Technique
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

5. QFD stands for

- a) quality function design
- b) quality function development
- c) quality function deployment
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

6. A Use-case actor is always a person having a role that different people may play.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Use-case Actor is anything that needs to interact with the system, be it a person or another (external) system.

7. The user system requirements are the parts of which document ?

- a) SDD
- b) SRS
- c) DDD
- d) SRD

[View Answer](#)

Answer: b

Explanation: Software requirements specification (SRS), is a complete description of the behaviour of a system to be developed and may include a set of use cases that describe interactions the users will have with the software.

8. A stakeholder is anyone who will purchase the completed software system under development.

- a) True

b) False

[View Answer](#)

Answer: b

Explanation: Stakeholders are anyone who has an interest in the project. Project stakeholders are individuals and organizations that are actively involved in the project, or whose interests may be affected as a result of project execution or project completion.

9. Conflicting requirements are common in Requirement Engineering, with each client proposing his or her version is the right one.

a) True

b) False

[View Answer](#)

Answer: a

Explanation: This situation is seen in every field of work as each professional has his/her way of looking onto things & would argue to get his/her point approved.

10. Which is one of the most important stakeholder from the following ?

- a) Entry level personnel
- b) Middle level stakeholder
- c) Managers
- d) Users of the software

[View Answer](#)

Answer: d

Explanation: Users are always the most important stakeholders. After all, without users or customers, what's the point of being in business?.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Functional and Non-Functional Requirements”.

1. Which one of the following is a functional requirement ?

- a) Maintainability
- b) Portability
- c) Robustness
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: All are non-functional requirements representing quality of the system. Functional requirements describe what the software has to do.

2. Which one of the following is a requirement that fits in a developer’s module ?

- a) Availability
- b) Testability
- c) Usability
- d) Flexibility

[View Answer](#)

Answer: b

Explanation: A developer needs to test his product before launching it into the market.

3. "Consider a system where, a heat sensor detects an intrusion and alerts the security company." What kind of a requirement the system is providing ?

- a) Functional
- b) Non-Functional
- c) Known Requirement
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Functional requirements describe what the software has to do.

4. Which of the following statements explains portability in non-functional requirements?

- a) It is a degree to which software running on one platform can easily be converted to run on another platform
- b) It cannot be enhanced by using languages, OS' and tools that are universally available and standardized
- c) The ability of the system to behave consistently in a user-acceptable manner when operating within the environment for which the system was intended
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Option c is termed as reliability and option e refers to efficiency.

5. Functional requirements capture the intended behavior of the system.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: The behavior of functional requirements may be expressed as services, tasks or functions the system is required to perform.

6. Choose the incorrect statement with respect to Non-Functional Requirement(NFR).

- a) Product-oriented Approach – Focus on system (or software) quality
- b) Process-oriented Approach – Focus on how NFRs can be used in the design process
- c) Quantitative Approach – Find measurable scales for the functionality attributes
- d) Qualitative Approach – Study various relationships between quality goals

[View Answer](#)

Answer: c

Explanation: Quantitative Approaches in NFRs are used to find measurable scales for the quality attributes like efficiency, flexibility, integrity, usability etc.

7. How many classification schemes have been developed for NFRs ?

- a) Two
- b) Three
- c) Four
- d) Five

[View Answer](#)

Answer: d

Explanation: Software Quality Tree [Boehm 1976], Roman [IEEE Computer 1985], Process-

Product-External considerations [Sommerville 1992], Mc Call's NFR list and Dimensions of Quality–Components of FURPS+ are the five classification schemes for NFRs.

.

8. According to components of FURPS+, which of the following does not belong to S ?

- a) Testability
- b) Speed Efficiency
- c) Serviceability
- d) Installability

[View Answer](#)

Answer: b

Explanation: Speed Efficiency belong to Performance (P) in FURPS+ .

9. Does software wear & tear by decomposition ?

- a) Yes
- b) No

[View Answer](#)

Answer: b

Explanation: Unlike hardware, software is reliable.

10. What are the four dimensions of Dependability ?

- a) Usability, Reliability, Security, Flexibility
- b) Availability, Reliability, Maintainability, Security
- c) Availability, Reliability, Security, Safety
- d) Security, Safety, Testability, Usability

[View Answer](#)

Answer: c

Explanation: All the traits of option c sync with dependability.

11. Choose the correct statement on how NFRs integrates with Rational Unified Process ?

- a) System responds within 4 seconds on average to local user requests and changes in the environment
- b) System responds within 4 seconds on average to remote user requests and changes in the environment
- c) All of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: System response to a local user is 2 seconds on average.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Elicitation”.

1. What is the first step of requirement elicitation ?

- a) Identifying Stakeholder
- b) Listing out Requirements
- c) Requirements Gathering

d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Stakeholders are the ones who will invest in and use the product, so it's essential to chalk out stakeholders first.

2. Starting from least to most important, choose the order of stakeholder.

- i. Managers
 - ii. Entry level Personnel
 - iii. Users
 - iv. Middle level stakeholder
- a) i, ii, iv, iii
b) i, ii, iii, iv
c) ii, iv, i, iii
d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Users are your customers, they will be using your product, thus making them most important of all.

3. Arrange the tasks involved in requirements elicitation in an appropriate manner.

- i. Consolidation
 - ii. Prioritization
 - iii. Requirements Gathering
 - iv. Evaluation
- a) iii, i, ii, iv
b) iii, iv, ii, i
c) iii, ii, iv, i
d) ii, iii, iv, i

[View Answer](#)

Answer: b

Explanation: Requirements gathering captures viewpoint from different users followed by evaluation of those viewpoints. Now comes the task of checking the relative importance of the requirements and finally to consolidate or bind together the information collected.

4. What are the types of requirement in Quality Function Deployment(QFD) ?

- a) Known, Unknown, Undreamed
- b) User, Developer
- c) Functional, Non-Functional
- d) Normal, Expected, Exciting

[View Answer](#)

Answer: d

Explanation: According to QFD, Normal, Expected and Exciting requirements maximize customer satisfaction from the Software Engineering Process.

5. What kind of approach was introduced for elicitation and modelling to give a functional view of the system ?

- a) Object Oriented Design (by Booch)

- b) Use Cases (by Jacobson)
- c) Fusion (by Coleman)
- d) Object Modeling Technique (by Rumbaugh)

[View Answer](#)

Answer: b

Explanation: Use Case captures who does what with the system, for what purpose, without dealing with system internals.

6. What are the kinds of actors used in OOSE ?

- a) Primary
- b) Secondary
- c) Ternary
- d) Both Primary and Secondary

[View Answer](#)

Answer: d

Explanation: A primary actor is one having a goal requiring the assistance of the system whereas, a secondary actor is one from which system needs assistance. There is no such thing as ternary actor in Software Engineering.

7. Why is Requirements Elicitation a difficult task ?

- a) Problem of scope
- b) Problem of understanding
- c) Problem of volatility
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Users specify unnecessary technical detail that may confuse, rather than clarify overall system objectives. Also, the customers/users are not completely sure of what is needed, have a poor understanding of the capabilities and limitations of their computing environment and they do not understand that the requirements change over time.

8. What requirement gathering method developed at IBM in 1970s is used for managing requirement elicitation ?

- a) JAD
- b) Traceability
- c) FAST
- d) Both JAD and Traceability

[View Answer](#)

Answer: d

Explanation: Joint application design (JAD) is a process used to collect business requirements while developing new information systems for a company. Requirements traceability is concerned with documenting the life of a requirement and providing bi-directional traceability between various associated requirements.

9. Requirements elicitation is a cyclic process

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Requirements traceability provides bi-directional traceability between various associated requirements.

10. How many Scenarios are there in elicitation activities ?

- a) One
- b) Two
- c) Three
- d) Four

[View Answer](#)

Answer: d

Explanation: As-is Scenario, Visionary Scenario, Evaluation Scenario and Training Scenario are the four scenarios in requirement elicitation activities.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Elicitation Techniques -1”.

1. Which of the following elicitation techniques is a viewpoint based method?

- a) FODA
- b) QFD
- c) CORE
- d) IBIS

[View Answer](#)

Answer: c

Explanation: Controlled Requirements Expression(CORE) says that any system can be viewed from a number of view points and that a complete picture of system requirements can only emerge by putting together the various viewpoints.

2. _____ and _____ are the two view points discussed in Controlled Requirements Expression (CORE).

- a) Functional, Non-Functional
- b) User, Developer
- c) Known, Unknown
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: The CORE sessions includes the discussion of functional and non-functional requirements.

3. What is the major drawback of CORE ?

- a) Requirements are comprehensive
- b) NFRs are not given enough importance
- c) Role of analyst is passive
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: In CORE the requirement specification are put together by all users, customers and analysts, so a passive analyst will not get the requirements properly.

4. Choose a framework that corresponds to Issue Based Information System (IBIS).

- a) Idea -> Question -> Argument
- b) Question -> Idea -> Argument
- c) Issue -> Position -> Justification
- d) Both Question -> Idea -> Argument and Issue -> Position -> Justification

[View Answer](#)

Answer: d

Explanation: IBIS is a simple and non-intrusive method that provides a framework for resolving issues and gathering requirements.

5. How is CORE different from IBIS ?

- a) Iterative in nature
- b) Redundancies are removed
- c) It is simple and an easier method to use
- d) Consistency problems are addressed in CORE

[View Answer](#)

Answer: d

Explanation: Preliminary data collection is done in CORE to get some broad level data on each view point to structure the view point and to check consistency from within and outside the viewpoints.

6. Which of the following Requirement Elicitation Techniques removes the poor understanding of application domain and lack of common terminology between the users and the analysts ?

- a) FODA
- b) CORE
- c) IBIS
- d) Prototyping

[View Answer](#)

Answer: a

Explanation: Feature Oriented Domain Analysis (FODA) is defined as the process of identifying, collecting, organizing and representing relevant information in a domain .

7. How many steps are involved in Feature Oriented Domain Analysis (FODA) ?

- a) Two
- b) Three
- c) Four
- d) Five

[View Answer](#)

Answer: b

Explanation: Context Analysis, Domain Modeling and Architecture Modeling are the three steps involved in Feature Oriented Domain Analysis (FODA).

8. IBIS is a more structured approach than CORE.

- a) True

b) False

[View Answer](#)

Answer: a

Explanation: IBIS is a more structured approach as it captures information which is consistent and important. On the other hand CORE gives importance to every view point even if it is obsolete.

9. Which one of the following is not an actor in JAD sessions ?

- a) User
- b) Tester
- c) Scribe
- d) Sponsor

[View Answer](#)

Answer: b

Explanation: A Tester's role is seen in after coding phase rather than in elicitation phase.

10. What of the following is not an output of a JAD session ?

- a) Context Diagrams
- b) DFDs
- c) ER model
- d) UML diagrams

[View Answer](#)

Answer: d

Explanation: Unified Modeling Language (UML) diagrams are constructed during the design phase of the SDLC.

This set of Software Engineering Interview Questions and Answers for freshers focuses on "Requirement Elicitation Techniques – 2".

1. How is brainstorming different from JAD ? Brainstorming sessions

- a) last for about 2-3 hours
- b) last for about 2-3 days
- c) cover the technology used for the development
- d) all of the mentioned

[View Answer](#)

Answer: a

Explanation: Brainstorming is a group or individual creativity technique by which efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its member(s). The idea is to quickly reach to an approved solution ASAP.

2. How is throwaway prototype different from evolutionary prototype ?

- a) It involves successive steps
- b) It involves just one task
- c) The prototype is built with the idea that it will eventually be converted into final system
- d) It has a shorter development time

[View Answer](#)

Answer: b

Explanation: Except option b all other options represent the characteristics of an evolutionary prototype.

3. Keeping the requirements of QFD in mind which of the following is not an example of an Expected Requirement ?

- a) Ease of software installation
- b) Overall operational correctness and reliability
- c) Specific system functions
- d) Quality graphical display

[View Answer](#)

Answer: c

Explanation: Expected requirements are so fundamental that a customer does not explicitly state them. System functions comes under the category of Normal requirements in QFD which is compulsory to be defined, hence is not an expected requirement.

4. QFD works best if it has management commitment.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: QFD involves heavy investment in initial stages, thus bounding the management to provide appropriate funding for the development process .

5. Which of the following Requirement Elicitation Techniques is applicable to messy, changing and ill-defined problem situations ?

- a) Quality Function Deployment (QFD)
- b) Prototyping
- c) Soft Systems Methodology (SSM)
- d) Controlled Requirements Expression (CORE)

[View Answer](#)

Answer: c

Explanation: Soft systems methodology (SSM) is a systemic approach for tackling real-world problematic situations. It is a common misunderstanding that SSM is a methodology for dealing solely with ‘soft problems’ (problems which involve psychological, social, and cultural elements). SSM does not differentiate between ‘soft’ and ‘hard’ problems, it merely provides a different way of dealing with situations perceived as problematic.

6. To ensure that a given root definition is rigorous and comprehensive, The Lancaster team proposed several criteria that are summarized in the mnemonic CATWOE in Soft Systems Methodology (SSM). Which of the following alphabet is representing an entirely different meaning to SSM ?

- a) C – Customer
- b) A – Actor
- c) T – Transformation
- d) E – ER Model

[View Answer](#)

Answer: d

Explanation: 'E' in CATWOE stands for Environmental constraints.

7. Choose the disadvantage of using SSM as an elicitation technique.
- a) It incorporates human element into design
 - b) SSM is in its infant stage
 - c) SSM is suitable for new systems
 - d) Standard methodologies like Role Exploration, Issue Resolution and Reorganization support SSM

[View Answer](#)

Answer: b

Explanation: SSM is still in its infancy. It is evolving and its industrial usage is low.

8. How many phases are there in Brainstorming ?

- a) Two
- b) Three
- c) Four
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Preparation, Execution and Follow up are the three phases to be achieved for a successful brainstorming session.

9. Who controls the FAST (Facilitated Application Specification Techniques) meeting ?

- a) System Analyst
- b) Scribe
- c) Facilitator
- d) Manager

[View Answer](#)

Answer: c

Explanation: A Facilitator (a customer/developer/an outsider) controls the FAST meeting. His role is to ensure that the meeting is productive.

10. Arrange the steps in order to represent the conducting of Wideband Delphi Technique.

- i. Conduct a group discussion
- ii. Conduct another group discussion
- iii. Present experts with a problem
- iv. Collect expert opinion anonymously
- v. Iterate until consensus is reached
- vi. Feedback a summary of result to each expert

- a) i, iii, ii, iv, v, vi
- b) iii, i, ii, iv, v, vi
- c) i, ii, iii, iv, vi, v
- d) iii, i, iv, vi, ii, v

[View Answer](#)

Answer: d

Explanation: The sequence represents the working steps of a Wideband Delphi technique .

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Analysis”.

1. Which of the following is not a diagram studied in Requirement Analysis ?

- a) Use Cases
- b) Entity Relationship Diagram
- c) State Transition Diagram
- d) Activity Diagram

[View Answer](#)

Answer: d

Explanation: Activity Diagram comes under the design phase of SDLC.

2. How many feasibility studies is conducted in Requirement Analysis ?

- a) Two
- b) Three
- c) Four
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Economic feasibility (cost/benefit analysis), Technical feasibility (hardware/software/people, etc.) and Legal feasibility studies are done in Requirement Analysis.

3. How many phases are there in Requirement Analysis ?

- a) Three
- b) Four
- c) Five
- d) Six

[View Answer](#)

Answer: c

Explanation: Problem Recognition, Evaluation and Synthesis (focus is on what not how), Modeling, Specification and Review are the five phases.

4. Traceability is not considered in Requirement Analysis.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Requirements traceability is concerned with documenting the life of a requirement and providing bi-directional traceability between various associated requirements, hence requirements must be traceable.

5. Requirements analysis is critical to the success of a development project.

- a) True
- b) False
- c) Depends upon the size of project
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Requirements must be actionable, measurable, testable, related to identified business needs or opportunities, and defined to a level of detail sufficient for system design.

6. _____ and _____ are the two issues of Requirement Analysis.

- a) Performance, Design
- b) Stakeholder, Developer
- c) Functional, Non-Functional
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Option a and c are the types of requirements and not the issues of requirement analysis..

7. The requirements that result from requirements analysis are typically expressed from one of three perspectives or views. What is that perspective or view ?

- a) Developer
- b) User
- c) Non-Functional
- d) Physical

[View Answer](#)

Answer: d

Explanation: The perspectives or views have been described as the Operational, Functional, and Physical views. All three are necessary and must be coordinated to fully understand the customers' needs and objectives.

8. Requirements Analysis is an Iterative Process.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Requirements analysis is conducted iteratively with functional analysis to optimize performance requirements for identified functions, and to verify that synthesized solutions can satisfy customer requirements.

9. Coad and Yourdon suggested _____ selection characteristics that should be used as an analyst considers each potential object for inclusion in the requirement analysis model.

- a) Three
- b) Four
- c) Five
- d) Six

[View Answer](#)

Answer: d

Explanation: Retained information, Needed services, Multiple attributes, Common attributes, Common operations and Essential requirements are the six criterion mentioned by Coad and Yourdon.

10. Requirements should specify ‘what’ but not ‘how’.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: ‘What’ refers to a system’s purpose, while ‘How’ refers to a system’s structure and behavior.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Documentation”.

1. Which of the following property does not correspond to a good Software Requirements Specification (SRS) ?

- a) Verifiable
- b) Ambiguous
- c) Complete
- d) Traceable

[View Answer](#)

Answer: b

Explanation: The SRS should be unambiguous in nature which means each sentence in SRS should have a unique interpretation.

2. Which of the following property of SRS is depicted by the statement : “Conformity to a standard is maintained” ?

- a) Correct
- b) Complete
- c) Consistent
- d) Modifiable

[View Answer](#)

Answer: b

Explanation: The SRS is complete full labeling and referencing of all figures, tables etc. and definition of all terms and units of measure is defined.

3. The SRS is said to be *consistent* if and only if

- a) its structure and style are such that any changes to the requirements can be made easily while retaining the style and structure
- b) every requirement stated therein is one that the software shall meet
- c) every requirement stated therein is verifiable
- d) no subset of individual requirements described in it conflict with each other

[View Answer](#)

Answer: d

Explanation: Real world object may conflict with each other for example one requirement says that all lights should be red while the other states that all lights should green.

4. Which of the following statements about SRS is/are true ?

- i. SRS is written by customer
- ii. SRS is written by a developer

- iii. SRS serves as a contract between customer and developer
- a) Only i is true
 - b) Both ii and iii are true
 - c) All are true
 - d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: The SRS acts as a communication media between the Customer, Analyst, system developers, maintainers etc. Thus it is a contract between Purchaser and Supplier. It is essentially written by a developer on the basis of customer' need but in some cases it may be written by a customer as well.

5. The SRS document is also known as _____ specification.
- a) black-box
 - b) white-box
 - c) grey-box
 - d) none of the mentioned

[View Answer](#)

Answer: a

Explanation: The system is considered as a black box whose internal details are not known that is, only its visible external (input/output) behavior is documented.

6. Which of the following is included in SRS ?
- a) Cost
 - b) Design Constraints
 - c) Staffing
 - d) Delivery Schedule

[View Answer](#)

Answer: b

Explanation: Design constraints include standards to be incorporated in the software, implementation language, resource limits, operating environment etc.

7. Which of the following is not included in SRS ?
- a) Performance
 - b) Functionality
 - c) Design solutions
 - d) External Interfaces

[View Answer](#)

Answer: c

Explanation: The SRS document concentrates on:"what needs to be done" and carefully avoids the solution ("how to do") aspects.

8. Arrange the given sequence to form a SRS Prototype outline as per IEEE SRS Standard.
- i. General description
 - ii. Introduction
 - iii. Index
 - iv. Appendices
 - v. Specific Requirements

- a) iii, i, ii,v, iv
- b) iii, ii, i, v, iv
- c) ii, i, v, iv, iii
- d) iii, i, ii

[View Answer](#)

Answer: c

Explanation: The given sequence correctly resemble a standard SRS prototype as per IEEE.

9. Consider the following Statement: "The output of a program shall be given within 10 secs of event X 10% of the time."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Verifiable
- c) Non-verifiable
- d) Correct

[View Answer](#)

Answer: b

Explanation: An SRS is verifiable, if and only if, every requirement stated therein is verifiable. Here the given condition can be verified during testing phase.

10. Consider the following Statement: "The data set will contain an end of file character."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Non-verifiable
- c) Correct
- d) Ambiguous

[View Answer](#)

Answer: b

Explanation: An SRS is unambiguous if and only if, every requirement stated therein has only one unique interpretation. The given statement does not answer the question: "which data set will have an end of file character ?".

11. Consider the following Statement: "The product should have a good human interface."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Non-Verifiable
- c) Correct
- d) Ambiguous

[View Answer](#)

Answer: b

Explanation: An SRS is verifiable, if and only if, every requirement stated therein is verifiable. The statement can only be answered on completion of the software and customer evaluation but still human interface will vary from person to person.

12. Narrative essay is one of the best types of specification document ?

- a) True
- b) False

[View Answer](#)

Answer:b

Explanation: Narrative essay is one of the worst types of specification document as it is difficult to change, difficult to be precise, has scope for contradictions, etc.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Requirement Management”.

1. Which two requirements are given priority during Requirement Management of a product ?

- a) User and Developer
- b) Functional and Non-functional
- c) Enduring and Volatile
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Enduring requirements are core requirements & are related to main activity of the organization while volatile requirements are likely to change during software development life cycle or after delivery of the product.

2. Considering the example of issue/return of a book, cataloging etc. in a library management.What type of management requirement is being depicted here?

- a) Enduring
- b) Volatile
- c) Both Enduring & Volatile
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: For library management system issue/return of a book, cataloging etc. are core activities and are stable for any system.

3. Why is Requirements Management Important ? It is due to the changes

- a) to the environment
- b) in technology
- c) in customer's expectations
- d) in all of the mentioned.

[View Answer](#)

Answer: d

Explanation: Systems continue to be built as the advancement of new products being launched in the market and so does the market changes, the technology and in turn customer's expectation.

4. Requirements Management is a prerequisite for Quality-Oriented Development.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Quality makes no sense without reference to requirements, which means quality-oriented development is requirements-driven development, thus requirements management is a prerequisite for quality-oriented development.

5. Requirements traceability is one of the most important part requirement management. It may also be referred to as the heart of requirement management.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Requirements traceability refers to the ability to describe and follow the life of a requirement in both forwards and backwards direction. Requirements can be traced from its origins, through its development and specification, to its subsequent deployment and use, and through periods of ongoing refinement and iteration in any of these phases.

6. Requirements Management has a high initial start-up cost but does not need ongoing funding throughout a project.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Requirements Management needs continued funding throughout a project. Project funding is often limited at the onset of a project, restricted to those aspects of the project which are tangible and visible, and subsequently allocated in a phase-by-phase manner.

7. Which of the following is not a Requirement Management workbench tool ?

- a) RTM
- b) DOORS
- c) Rational Suite
- d) RDD 100

[View Answer](#)

Answer: c

Explanation: Rational Suite is an environment tool for requirement management.

8. Which of the following is a requirement management activity ?

- a) Investigation
- b) Design
- c) Construction and Test
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options are the activities of requirement management.

9. What functionality of Requirement Management Tool (RMT) is depicted by the statement: “the tool should be able to automatically detect relations between artifacts. For example information retrieval techniques, monitoring of change history, naming schemas or model transformations.”

- a) Automatic Link Detection
- b) Documentation Support
- c) Graphical Representation
- d) Automatic Link Creation and Change

[View Answer](#)

Answer: a

Explanation: DOORS is one such tool that supports Automatic Link Detection.

10. According to a statistical report: “over 30% of all software projects are cancelled before completion and over 70% of the remainder fail to deliver expected features”. What must be the reason for such a situation ?

- a) Poor change management
- b) Poor requirements management
- c) Poor quality control
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Fundamental to the problem mentioned in the statistical report is poor requirements management. Option a and c are its sub parts.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “System Modelling – 1”.

1. The Unified Modeling Language (UML) has become an effective standard for software modelling. How many different notations does it have ?

- a) Three
- b) Four
- c) Six
- d) Nine

[View Answer](#)

Answer: d

Explanation: The different notations of UML includes the nine UML diagrams namely class, object, sequence, collaboration, activity, state-chart, component, deployment and use case diagrams.

2. Which model in system modelling depicts the dynamic behaviour of the system ?

- a) Context Model
- b) Behavioral Model
- c) Data Model
- d) Object Model

[View Answer](#)

Answer: b

Explanation: Behavioral models are used to describe the dynamic behavior of an executing system. This can be modeled from the perspective of the data processed by the system or by the events that stimulate responses from a system.

3. Which model in system modelling depicts the static nature of the system ?

- a) Behavioral Model
- b) Context Model
- c) Data Model
- d) Structural Model

[View Answer](#)

Answer: d

Explanation: Structural models show the organization and architecture of a system. These are used to define the static structure of classes in a system and their associations.

4. Which perspective in system modelling shows the system or data architecture.

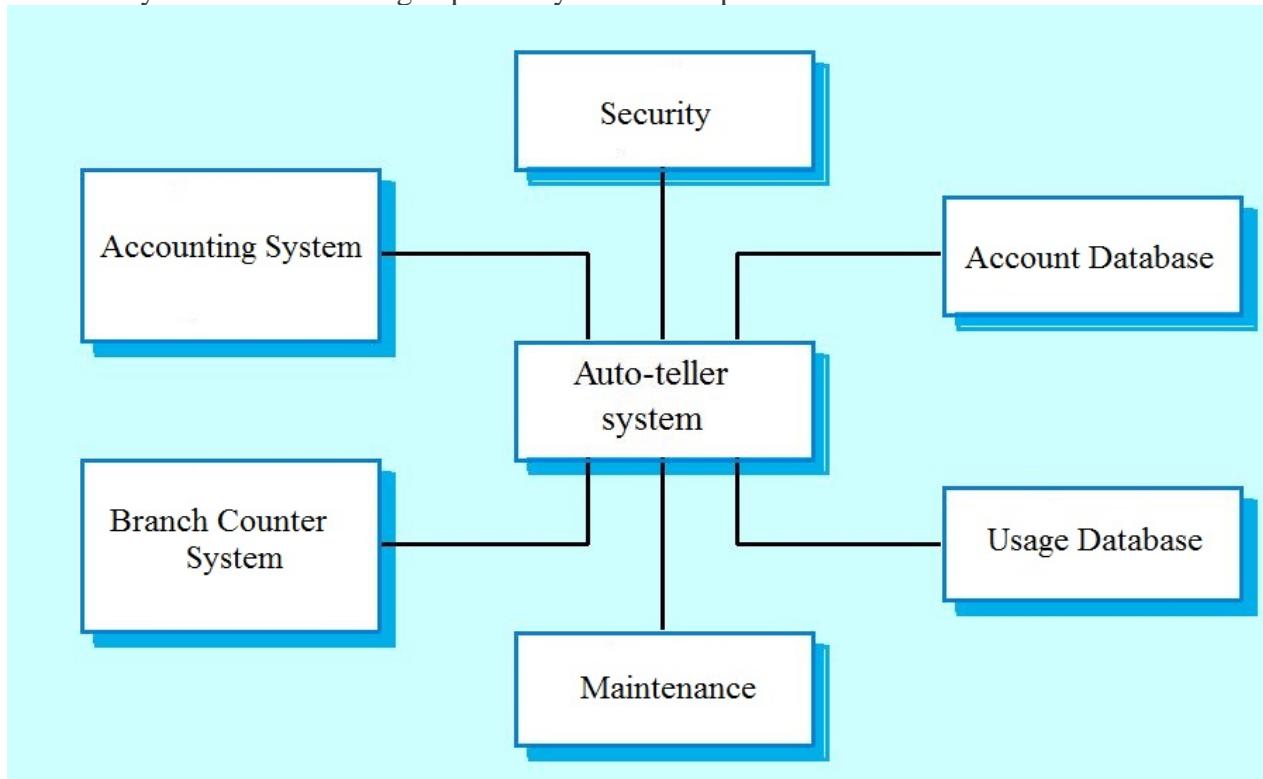
- a) Structural perspective
- b) Behavioral perspective
- c) External perspective
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Structural perspective is used to define the static structure of classes in a system and their associations.

5. Which system model is being depicted by the ATM operations shown below:



- a) Structural model
- b) Context model
- c) Behavioral model
- d) Interaction model

[View Answer](#)

Answer: b

Explanation: Context models are used to illustrate the operational context of a system. They show what lies outside the system boundaries.

6. Activity diagrams are used to model the processing of data.

- a) True

b) False

[View Answer](#)

Answer: a

Explanation: The statement mentioned is true and each activity represents one process step.

7. Model-driven engineering is just a theoretical concept. It cannot be converted into a working/executable code.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Model-driven engineering is an approach to software development in which a system is represented as a set of models that can be automatically transformed to executable code.

8. The UML supports event-based modeling using _____ diagrams.

a) Deployment

b) Collaboration

c) State chart

d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: State diagrams show system states and events that cause transitions from one state to another.

This set of Software Engineering Questions and Answers for Experienced people focuses on “System Modelling – 2”.

1. Which of the following diagram is not supported by UML considering Data-driven modeling ?

a) Activity

b) Data Flow Diagram (DFD)

c) State Chart

d) Component

[View Answer](#)

Answer: b

Explanation: DFDs focus on system functions and do not recognize system objects.

2. _____ allows us to infer that different members of classes have some common characteristics.

a) Realization

b) Aggregation

c) Generalization

d) dependency

[View Answer](#)

Answer: c

Explanation: Generalization is an everyday technique that we use to manage complexity. This means that common information will be maintained in one place only.

3. One creates Behavioral models of a system when you are discussing and designing the system architecture.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Structural models of software display the organization of a system in terms of the components that make up that system and their relationships.

4. _____ & _____ diagrams of UML represent Interaction modeling.

a) Use Case, Sequence

b) Class, Object

c) Activity, State Chart

d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Use case modeling is mostly used to model interactions between a system and external actors. Sequence diagrams are used to model interactions between system components, although external agents may also be included.

5. Which level of Entity Relationship Diagram (ERD) models all entities and relationships ?

a) Level 1

b) Level 2

c) Level 3

d) Level 4

[View Answer](#)

Answer: b

Explanation: Level 1 ERD models all data objects (entities) and their “connections” to one another while Level 3 ERD models all entities, relationships, and the attributes that provide further depth. Thus option b is correct.

6. _____ classes are used to create the interface that the user sees and interacts with as the software is used.

a) Controller

b) Entity

c) Boundary

d) Business

[View Answer](#)

Answer: c

Explanation: The answer is self-explanatory.

7. Which of the following statement is incorrect regarding the Class-responsibility-collaborator (CRC) modeling ?

a) All use-case scenarios (and corresponding use-case diagrams) are organized into categories in CRC modelling

b) The review leader reads the use-case deliberately

c) Only developers in the review (of the CRC model) are given a subset of the CRC model index cards

d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: All participants in the review (of the CRC model) are given a subset of the CRC model index cards.

8. A data object can encapsulates processes and operation as well.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: A data object encapsulates data only. There is no reference within a data object to operations that act on the data.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Evolution”.

1. The two dimensions of spiral model are

a) diagonal, angular

b) radial, perpendicular

c) radial, angular

d) diagonal, perpendicular

[View Answer](#)

Answer: c

Explanation: The radial dimension depicts the cumulative costs and the angular dimension depicts the progress made in completing each cycle. Each loop of the spiral model represents a phase.

2. The Incremental Model is combination of elements of

a) Build & FIX Model & Waterfall Model

b) Linear Model & RAD Model

c) Linear Model & Prototyping Model

d) Waterfall Model & RAD Model

[View Answer](#)

Answer: c

Explanation: Each linear sequence produces a deliverable “increment” of the software system, particularly needed in case of quick delivery of a limited functionality system..

3. Model preferred to create client/server applications is

a) WINWIN Spiral Model

b) Spiral Model

c) Concurrent Model

d) Incremental Model

[View Answer](#)

Answer: c

Explanation: In case of client/server applications, the concurrent process model specifies activities in two dimensions: a system dimension and a component dimension. Hence

Concurrency is achieved by these two activities occurring simultaneously and can be modeled using the state-oriented approach.

4. Identify the correct statement with respect to Evolutionary development:

- a) Evolutionary development usually has two flavors; exploratory development, and throw-away prototyping
- b) Very large projects are usually done using evolutionary development based approach
- c) It facilitates easy project management, through the high volume of documentation it generates
- d) Sometimes the construction of a throw-away prototype is not followed by a re-implementation of the software system using a more structured approach

[View Answer](#)

Answer: a

Explanation: Evolutionary development usually has two flavors; exploratory development, and throw-away prototyping.

5. Spiral model was developed by

- a) Victor Bisili
- b) Berry Boehm
- c) Bev Littlewood
- d) Roger Pressman

[View Answer](#)

Answer: b

Explanation: Berry Boehm in 1986 in his Article “A spiral model of software development and enhancement”.

6. Software evolution does not comprises:

- a) Development activities
- b) Negotiating with client
- c) Maintenance activities
- d) Re-engineering activities

[View Answer](#)

Answer: b

Explanation: Software evolution refers to the study and management of the process of making changes to software over time. Thus it comprises rest three options.

7. Processes for evolving a software product depend on:

- a) Type of software to be maintained
- b) Development processes used
- c) Skills and experience of the people involved
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Processes used for software evolution depend on all these factors.

8. Which technique is applied to ensure the continued evolution of legacy systems ?

- a) Forward engineering
- b) Reverse Engineering
- c) Reengineering

d) Reverse Engineering and Reengineering

[View Answer](#)

Answer: d

Explanation: Processes used for software evolution depend rely on these two techniques.

9. Program modularization and Source code translation are the activities of _____

- a) Forward engineering
- b) Reverse Engineering
- c) Reengineering
- d) Reverse Engineering and Reengineering

[View Answer](#)

Answer: c

Explanation: Reengineering is the examination and alteration of a subject system to reconstitute it in a new form and the subsequent implementation of the new form.

10. Reverse engineering is the last activity in a reengineering project.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Reverse engineering is often the initial activity in a reengineering project.

11. The cost of re-engineering is often significantly less than the costs of developing new software.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: There is a high risk in new software development. There may be development problems, staffing problems and specification problems, thereby increasing the cost.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Design”.

1. Which is the first step in the software development life cycle ?

- a) Analysis
- b) Design
- c) Problem/Opportunity Identification
- d) Development and Documentation

[View Answer](#)

Answer: c

Explanation: None.

2. Which tool is use for structured designing ?

- a) Program flowchart
- b) Structure chart
- c) Data-flow diagram

d) Module

[View Answer](#)

Answer: b

Explanation: A Structure Chart (SC) in software engineering and organizational theory, is a chart which shows the breakdown of a system to its lowest manageable levels.

3. A step by step instruction used to solve a problem is known as

a) Sequential structure

b) A List

c) A plan

d) An Algorithm

[View Answer](#)

Answer: d

Explanation: None.

4. In the Analysis phase, the development of the _____ occurs, which is a clear statement of the goals and objectives of the project.

a) documentation

b) flowchart

c) program specification

d) design

[View Answer](#)

Answer: c

Explanation: Program specification is the definition of what a computer program is expected to do.

5. Actual programming of software code is done during the _____ step in the SDLC.

a) Maintenance and Evaluation

b) Design

c) Analysis

d) Development and Documentation

[View Answer](#)

Answer: d

Explanation: The developer has to find in the technical documentation enough information to start coding.

6. Who designs and implement database structures.

a) Programmers

b) Project managers

c) Technical writers

d) Database administrators

[View Answer](#)

Answer: d

Explanation: The role of database administrators includes the development and design of database strategies, system monitoring and improving database performance and capacity, and planning for future expansion requirements.

7. _____ is the process of translating a task into a series of commands that a computer will use to perform that task.

- a) Project design
- b) Installation
- c) Systems analysis
- d) Programming

[View Answer](#)

Answer: d

Explanation: None.

8. Debugging is:

- a) creating program code
- b) finding and correcting errors in the program code
- c) identifying the task to be computerized
- d) creating the algorithm

[View Answer](#)

Answer: b

Explanation: Debugging is a methodical process of finding and reducing the number of bugs, or defects, in a computer program or a piece of electronic hardware, thus making it behave as expected.

9. In Design phase, which is the primary area of concern ?

- a) Architecture
- b) Data
- c) Interface
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Part of the design phase is to create structural and behavioral models of the system which is covered by architecture, data and the interface of the product.

10. The importance of software design can be summarized in a single word which is:

- a) Efficiency
- b) Accuracy
- c) Quality
- d) Complexity

[View Answer](#)

Answer: c

Explanation: Software functional quality reflects how well it complies with or conforms to a given design, based on functional requirements or specifications.

11. Cohesion is a qualitative indication of the degree to which a module

- a) can be written more compactly
- b) focuses on just one thing
- c) is able to complete its function in a timely manner
- d) is connected to other modules and the outside world

[View Answer](#)

Answer: b

Explanation: Cohesion of a single module/component is the degree to which its responsibilities form a meaningful unit.

12. Coupling is a qualitative indication of the degree to which a module

- a) can be written more compactly
- b) focuses on just one thing
- c) is able to complete its function in a timely manner
- d) is connected to other modules and the outside world

[View Answer](#)

Answer: d

Explanation: Coupling between modules/components is their degree of mutual interdependence.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Modularity in Software Design”.

1. Java packages and Fortran subroutine are examples of _____

- a) Functions
- b) Modules
- c) Classes
- d) Sub procedures

[View Answer](#)

Answer: b

Explanation: A modular system consist of well defined manageable units with well defined interfaces among the units.

2. Which of the property of software modularity is incorrect with respect to benefits software modularity?

- a) Modules are robust
- b) Module can use other modules
- c) Modules Can be separately compiled and stored in a library
- d) Modules are mostly dependent

[View Answer](#)

Answer: d

Explanation: Modularity cannot bring benefits unless the modules are autonomous or independent.

3. _____ is a measure of the degree of interdependence between modules.

- a) Cohesion
- b) Coupling
- c) None of the mentioned
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Coupling or dependency is the degree to which each program module relies on each one of the other modules.

4. Which of the following is the best type of module coupling?

- a) Control Coupling
- b) Stamp Coupling
- c) Data Coupling
- d) Content Coupling

[View Answer](#)

Answer: c

Explanation: The dependency between module A and B is said to be data coupled if their dependency is based on the fact they communicate by only passing of data.

5. Which of the following is the worst type of module coupling?

- a) Control Coupling
- b) Stamp Coupling
- c) External Coupling
- d) Content Coupling

[View Answer](#)

Answer: c

Explanation: Content coupling occurs when module A changes data of module B or when control is passed from one module to the middle of another.

6. Which of the following is the worst type of module cohesion?

- a) Logical Cohesion
- b) Temporal Cohesion
- c) Functional Cohesion
- d) Coincidental Cohesion

[View Answer](#)

Answer: d

Explanation: Coincidental cohesion exists in modules that contain instructions that have little or no relationship to one another.

7. Which of the following is the best type of module cohesion?

- a) Functional Cohesion
- b) Temporal Cohesion
- c) Functional Cohesion
- d) Sequential Cohesion

[View Answer](#)

Answer: a

Explanation: Functional Cohesion is a type of cohesion in which the tasks performed by a software module all contribute to the performance of a single function.

8. A software engineer must design the modules with the goal of high cohesion and low coupling.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: If the software is not properly modularized, a host of seemingly trivial enhancement or changes will result into death of the project.

9. In what type of coupling, the complete data structure is passed from one module to another?
- a) Control Coupling
 - b) Stamp Coupling
 - c) External Coupling
 - d) Content Coupling

[View Answer](#)

Answer: b

Explanation: None.

10. If all tasks must be executed in the same time-span, what type of cohesion is being exhibited?
- a) Functional Cohesion
 - b) Temporal Cohesion
 - c) Functional Cohesion
 - d) Sequential Cohesion

[View Answer](#)

Answer: b

Explanation: A Module exhibits temporal cohesion when it contains tasks that are related by the fact that all tasks must be executed in the same time-span.

This set of Basic Software Engineering Questions and Answers focuses on “Function Oriented Software Design”.

1. Choose the option that does not define Function Oriented Software Design.

- a) It consists of module definitions
- b) Modules represent data abstraction
- c) Modules support functional abstraction
- d) None of the mentioned

[View Answer](#)

Answer:b

Explanation: Option b defines an Object Oriented Design.

2. Which of the following is a complementary approach to function-oriented approach ?

- a) Object oriented analysis
- b) Object oriented design
- c) Structured approach
- d) Both Object oriented analysis and design

[View Answer](#)

Answer:d

Explanation: None.

3. Function-oriented design techniques starts with functional requirements specified in

- a) SDD
- b) SRS
- c) All of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer:b

Explanation: None.

4. Structured Analysis is based on the principles of

- a) Top-down decomposition approach
- b) Divide and conquer principle
- c) Graphical representation of results using DFDs
- d) All of the mentioned

[View Answer](#)

Answer:d

Explanation: None.

5. Which of the following is/are true with respect to functions ?

- a) A function such as “search-book” is represented using a circle
- b) Functions represent some activity
- c) Function symbol is known as a process symbol or a bubble in DFD
- d) All of the mentioned

[View Answer](#)

Answer:d

Explanation: All the options are correct with respect to Function Oriented Software Design.

6. Which of the following is not a use of a CASE tool ?

- a) Support structured analysis and design (SA/SD)
- b) Maintains the data dictionary
- c) Checks whether DFDs are balanced or not
- d) It complies with the available system

[View Answer](#)

Answer:d

Explanation: It takes long time to establish the system in order to comply with the available system.

7. What DFD notation is represented by the Rectangle?

- a) Transform
- b) Data Store
- c) Function
- d) None of the mentioned

[View Answer](#)

Answer:b

Explanation: None.

8. Structural decomposition is concerned with function calls.

- a) True
- b) False

[View Answer](#)

Answer:a

Explanation: Structural decomposition is concerned with developing a model of the design which shows the dynamic structure.

9. A function-oriented design focuses on the entities in the system rather than the data processing activities.

a) True

b) False

[View Answer](#)

Answer:b

Explanation: It is an object oriented design which focus on entities.

10. In DFDs, user interactions with the system is denoted by

a) Circle

b) Arrow

c) Rectangle

d) Triangle

[View Answer](#)

Answer:a

Explanation: None

This set of Software Engineering online quiz focuses on “Function Oriented Design using Structured Analysis Structured Design”.

1. SA/SD features are obtained from which of the methodologies?

a) Constantine and Yourdon methodology

b) DeMarco and Yourdon methodology

c) Gane and Sarson methodology

d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

2. Which of the following is not an activity of Structured Analysis (SA) ?

a) Functional decomposition

b) Transformation of a textual problem description into a graphic model

c) All the functions represented in the DFD are mapped to a module structure

d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: The module structure is the software architecture.

3. To arrive at a form which is suitable for implementation in some programming language is the purpose of

a) Structured Analysis (SA)

b) Structured Design (SD)

c) Detailed Design (DD)

d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

4. The results of structured analysis can be easily understood by ordinary customers.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: The results of structured analysis directly represents customer's perception of the problem and uses customer's terminology for naming different functions and data.

5. Structured Analysis is based on the principle of Bottom-Up Approach.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Structured Analysis follows uses decomposition approach.

6. The context diagram is also known as

- a) Level-0 DFD
- b) Level-1 DFD
- c) Level-2 DFD
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Context diagram captures the various entities external to the system interacting with it and data flow occurring between the system and the external entities.

7. A directed arc or line in DFD represents

- a) Data Store
- b) Data Process
- c) Data Flow
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: It resembles data flow in the direction of the arrow.

8. A DFD is always accompanied by a data dictionary.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: A data dictionary lists all data items appearing in a DFD including definition and data names.

9. Which of the following is a function of CASE Tool?

- a) Supporting Structured analysis and design (SA/SD)
- b) Maintaining the data dictionary
- c) Checking whether DFDs are balanced or not
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

10. Data Store Symbol in DFD represents a

- a) Physical file
- b) Data Structure
- c) Logical file
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: A logical file can be a data structure or a physical file on disk.

This set of Software Engineering online quiz focuses on “Function Oriented Design using Structured Analysis Structured Design”.

1. SA/SD features are obtained from which of the methodologies?

- a) Constantine and Yourdon methodology
- b) DeMarco and Yourdon methodology
- c) Gane and Sarson methodology
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

2. Which of the following is not an activity of Structured Analysis (SA) ?

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- b) Transformation of a textual problem description into a graphic model
- c) All the functions represented in the DFD are mapped to a module structure
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[View Answer](#)

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- b) Structured Design (SD)
- c) Detailed Design (DD)
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

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[View Answer](#)

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[View Answer](#)

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[View Answer](#)

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Explanation: None.

10. Data Store Symbol in DFD represents a
- a) Physical file
 - b) Data Structure
 - c) Logical file
 - d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: A logical file can be a data structure or a physical file on disk.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Object Oriented Software Design – 1”.

1. Choose the incorrect statement in terms of Objects.
- a) Objects are abstractions of real-world
 - b) Objects can't manage themselves
 - c) Objects encapsulate state and representation information
 - d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Objects are independent.

2. What encapsulates both data and data manipulation functions ?
- a) Object
 - b) Class
 - c) Super Class
 - d) Sub Class

[View Answer](#)

Answer: a

Explanation: None.

3. Which of the following is a mechanism that allows several objects in a class hierarchy to have different methods with the same name?

- a) Aggregation
- b) Polymorphism
- c) Inheritance
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: In polymorphism instances of each subclass will be free to respond to messages by calling their own version of the method.

4. Inherited object classes are self-contained.
- a) True
 - b) False

[View Answer](#)

Answer: b

Explanation: Inherited object classes are not self-contained. They cannot be understood without reference to their super-classes.

5. Which of the following points related to Object-oriented development (OOD) is true?

- a) OOA is concerned with developing an object model of the application domain
- b) OOD is concerned with developing an object-oriented system model to implement requirements
- c) All of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: The answer is in support with the OOD.

6. How is generalization implemented in Object Oriented programming languages?

- a) Inheritance
- b) Polymorphism
- c) Encapsulation
- d) Abstract Classes

[View Answer](#)

Answer: a

Explanation: None.

7. Which of the following is a disadvantage of OOD ?

- a) Easier maintenance
- b) Objects may be understood as stand-alone entities
- c) Objects are potentially reusable components
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options define the characteristics of OOD.

8. Which of the following describes "Is-a-Relationship" ?

- a) Aggregation
- b) Inheritance
- c) Dependency
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

9. Object that collects data on request rather than autonomously is known as

- a) Active Object
- b) Passive Object
- c) Multiple instance
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: A passive object holds data, but does not initiate control.

10. Objects are executed

- a) sequentially
- b) in Parallel
- c) sequentially & Parallel
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: Objects may be distributed and may execute sequentially or in parallel.

This set of Software Engineering Interview Questions and Answers for Experienced people focuses on “Object Oriented Software Design – 2”.

1. How many layers are present in the OO design pyramid?

- a) three
- b) four
- c) five
- d) one

[View Answer](#)

Answer: b

Explanation: The four layers are: Subsystem layer, class and object layer, message layer and responsibilities layer

2. Which of the following early OOD methods incorporates both a “micro development process” and a “macro development process.” ?

- a) Booch method
- b) Rumbaugh method
- c) Wirfs-Brock method
- d) Coad and Yourdon method

[View Answer](#)

Answer: a

Explanation: The macro development process includes the architectural planning and micro developments process defines rules that govern the use of operations and attributes and the domain-specific

policies for memory management, error handling, and other infrastructure functions.

3. Grady Booch, James Rumbaugh, and Ivar Jacobson combined the best features of their individual object-oriented analysis into a new method for object oriented design known as

- a) HTML
- b) XML
- c) UML
- d) SGML

[View Answer](#)

Answer: c

Explanation: The Unified Modeling Language (UML) has become widely used throughout the industry as the standard approach to OOD.

4. A design description of an object is known as a class

- a) instance
- b) object
- c) case
- d) both instance and object

[View Answer](#)

Answer: d

Explanation: None.

5. Which of the following is conceptually similar to objects?

- a) PACKAGE
- b) PROC
- c) PRIVATE
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: A package is a namespace that organizes a set of related classes and interfaces.

6. A design description in OOD includes

- a) Protocol Description
- b) Implementation Description
- c) Type Description
- d) both Protocol and Implementation Description

[View Answer](#)

Answer: d

Explanation: None.

7. Which of the following is not an operation as per OOD algorithms and data structures?

- a) operations that manipulate data in some way
- b) operations that perform a computation
- c) operations that check for syntax errors
- d) operations that monitor an object for the occurrence of a controlling event

[View Answer](#)

Answer: c

Explanation: Operations that check for syntax errors is concerned with the programming language used, so it will be handled by the compiler.

8. Throughout the OOD process, a software engineer should look for every opportunity for creating new design process.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: A software engineer should look for every opportunity to reuse existing design patterns whenever they meet the needs of the design rather than creating new ones.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Types of Software Metrics”.

1. Which of the following is the task of project indicators:

- a) help in assessment of status of ongoing project
- b) track potential risk
- c) help in assessment of status of ongoing project & track potential risk
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

2. Which of the following does not affect the software quality and organizational performance?

- a) Market
- b) Product
- c) Technology
- d) People

[View Answer](#)

Answer: a

Explanation: Market is a collection of competitors, stakeholders, users each having different views on the product. So it does not affect the software quality.

3. The intent of project metrics is:

- a) minimization of development schedule
- b) for strategic purposes
- c) assessing project quality on ongoing basis
- d) minimization of development schedule and assessing project quality on ongoing basis

[View Answer](#)

Answer: d

Explanation: A project metric is a quantitative measure of the degree to which a system, component or process possesses an attribute.

4. Which of the following is not a direct measure of SE process?

- a) Efficiency
- b) Cost
- c) Effort Applied
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Efficiency is an indirect measure.

5. Which of the following is an indirect measure of product?

- a) Quality
- b) Complexity

- c) Reliability
- d) All of the Mentioned

[View Answer](#)

Answer: d

Explanation: All the mentioned options are indirect measures of a product.

6. In size oriented metrics, metrics are developed based on the _____

- a) number of Functions
- b) number of user inputs
- c) number of lines of code
- d) amount of memory usage

[View Answer](#)

Answer: c

Explanation: None.

7. Which of the following is not an information domain required for determining function point in FPA ?

- a) Number of user Input
- b) Number of user Inquiries
- c) Number of external Interfaces
- d) Number of errors

[View Answer](#)

Answer: d

Explanation: FPA includes five domains namely input, output, inquiries, interface and logical files.

8. Usability can be measured in terms of:

- a) Intellectual skill to learn the system
- b) Time required to become moderately efficient in system usage
- c) Net increase in productivity
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

9. A graphical technique for finding if changes and variation in metrics data are meaningful is known as

- a) DRE (Defect Removal Efficiency)
- b) Function points analysis
- c) Control Chart
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Others options are formulas.

10. Defects removal efficiency (DRE)depends on:

- a) E – errors found before software delivery
- b) D – defects found after delivery to user

- c) Both E and D
- d) Varies with project

[View Answer](#)

Answer: c

Explanation: $DRE = E / (E + d)$.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Web Engineering Project Metrics”.

1. The user has no control over the contents of a static web page.

- a) True

- b) False

[View Answer](#)

Answer: a

Explanation: Static web pages are just for information purposes.

2. Which metric gives the idea about the contents on a web page ?

- a) Word Token
- b) Word Count
- c) Word Size
- d) Word Length

[View Answer](#)

Answer: b

Explanation: The word count metric gives the total number of words on a web page.

3. How is the complexity of a web page related to link count ?

- a) Directly
- b) Indirectly
- c) No relation
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: If link count is more, complexity will be more.

4. It is expected to have less number of connections for a good web application.

- a) True

- b) False

[View Answer](#)

Answer: a

Explanation: More the link count, more the complexity and the web page dependence factor will increase.

5. Number of dynamic web pages provides an idea about _____ for a web page that is to be built.

- a) size
- b) complexity
- c) effort

d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

6. Which of the following web engineering metric measures the extent of relatedness between two or more web pages ?

- a) Number of Static Content Objects
- b) Number of Dynamic Content Objects
- c) Web Page Similarity
- d) Number of Internal Page Links

[View Answer](#)

Answer: c

Explanation: None.

7. Which of the following is not a classification of the web engineering metric, Web Page Similarity ?

- a) Content based
- b) Link based
- c) Usage based
- d) Traffic based

[View Answer](#)

Answer: d

Explanation: Similarity between two web pages is not judged upon its traffic activity.

8. The static content objects are dependent on the actions of the user.

- a) True

- b) False

[View Answer](#)

Answer: b

Explanation: Dynamic Objects are user dependent

9. Link based measures rely on _____ structure of a web graph to obtain related pages.

- a) Embedded
- b) Hyperlink
- c) Dynamic
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Only option b answers the blank, rest are not in accordance to the question.

10. Which of the following is not a web engineering project metric ?

- a) Number of Static Content Objects
- b) Number of Dynamic Content Objects
- c) Number of Inherited Objects
- d) Word Count

[View Answer](#)

Answer: c

Explanation: There is no such metric as an inherited object's count.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Metrics Analysis”.

1. Which of the following is not a metric for design model?

- a) Interface design metrics
- b) Component-level metrics
- c) Architectural metrics
- d) Complexity metrics

[View Answer](#)

Answer: d

Explanation: Complexity metrics measure the logical complexity of source code.

2. Statement and branch coverage metrics are part of

- a) Analysis Model
- b) Testing
- c) Design Model
- d) Source Code

[View Answer](#)

Answer: b

Explanation: These metrics lead to the design of test cases that provide program coverage.

3. Function Points in software engineering was first proposed by

- a) Booch
- b) Boehm
- c) Albrecht
- d) Jacobson

[View Answer](#)

Answer: c

Explanation: First proposed by Albrecht in 1979, hundreds of books and papers have been written on functions points since then.

4. How many Information Domain Values are used for Function Point Computation?

- a) three
- b) four
- c) five
- d) six

[View Answer](#)

Answer: c

Explanation: The five values are: External Inputs, External Outputs, External Inquiries, Internal Logical Files and External Interface Files.

5. Function Point Computation is given by the formula

- a) $FP = [\text{count total} * 0.65] + 0.01 * \sum(F_i)$
- b) $FP = \text{count total} * [0.65 + 0.01 * \sum(F_i)]$.
- c) $FP = \text{count total} * [0.65 + 0.01] * \sum(F_i)$

d) $FP = [\text{count total} * 0.65 + 0.01] * \sum(F_i)$

[View Answer](#)

Answer: b

Explanation: Option b is the correct formula for Function Point Computation.

6. Architectural Design Metrics are _____ in nature.

- a) Black Box
- b) White Box
- c) Gray Box
- d) Green Box

[View Answer](#)

Answer: a

Explanation: They are “black box” in that they do not require any knowledge of the inner workings of a particular software component.

7. Structural complexity of a module i is given as $S(i) = f^*f(i)$. What does f symbolizes here?

- a) “fan check-out” of module i
- b) “fan check-in” of module i
- c) “fan in” of module i
- d) “fan out” of module i

[View Answer](#)

Answer: d

Explanation: Fan out is number of modules directly invoked by module i .

8. SMI stands for

- a) Software Mature Indicator
- b) Software Maturity Index
- c) Software Mature Index
- d) Software Maturity Indicator

[View Answer](#)

Answer: b

Explanation: None.

9. As the SMI approaches 1.0, the software product starts becoming unstable

- a) True

- b) False

[View Answer](#)

Answer: b

Explanation: As the SMI approaches 1.0, the software product begins to stabilize.

10. $SMI = [Mt - (Fa + Fc + Fd)]/Mt$. Here Mt is the number of modules

- a) in the current release
- b) in the current release that have been changed
- c) from the preceding release that were deleted in the current release
- d) none of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

11. The amount of time that the software is available for use is known as

- a) Reliability
- b) Usability
- c) Efficiency
- d) Functionality

[View Answer](#)

Answer: a

Explanation: None.

12. Usability in metric analysis is defined as the degree to which the software

- a) stated needs
- b) is easy to use
- c) makes optimal use of system resources
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Metrics for Quality Control”.

1. Size and Complexity are a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Product Metrics describe the characteristics of product.

2. Cost and schedule are a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Project Metrics describe the project characteristics and execution.

3. Number of errors found per person hours expended is an example of a

- a) measurement
- b) measure
- c) metric
- d) all of the mentioned

[View Answer](#)

Answer: c

Explanation: Metric is a quantitative measure of the degree to which a system, component, or process possesses a given attribute.

4. Which of the following is not categorized under Product Operation of McCall's Software Quality Factors?

- a) Flexibility
- b) Reliability
- c) Usability
- d) Integrity

[View Answer](#)

Answer: a

Explanation: Flexibility is a part of Product revision as per McCall's Software Quality Factors.

5. The arc-to-node ratio is given as $r = a/n$. What does 'a' represent in the ratio?

- a) maximum number of nodes at any level
- b) longest path from the root to a leaf
- c) number of modules
- d) lines of control

[View Answer](#)

Answer: d

Explanation: 'a' represents the arcs or the lines of control.

6. Which of the following is not categorized under Component-Level Design Metrics?

- a) Complexity Metrics
- b) Cohesion Metrics
- c) Morphology Metrics
- d) Coupling Metrics

[View Answer](#)

Answer: c

Explanation: Morphology metrics are a part of High level design metrics.

7. Percentage of modules that were inspected is a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

8. Metric is the act of obtaining a measure.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Measurement is the act of obtaining a measure.

9. MTTC falls the the category of

- a) correctness
- b) integrity
- c) maintainability
- d) all of the mentioned

[View Answer](#)

Answer: c

Explanation: Mean time to change (MTTC) is the time it takes to analyze the change request, design an appropriate modification, implement the change, test it, and distribute the change to all users.

10. Identify the correct option with reference to Software Quality Metrics.

- a) Integrity = $[\Sigma(1 - \text{threat})] * (1 - \text{security})$
- b) Integrity = $[1 - \Sigma(\text{threat})] * (1 - \text{security})$
- c) Integrity = $[1 - \text{threat} * \Sigma(1 - \text{security})]$.
- d) Integrity = $\Sigma[1 - \text{threat} * (1 - \text{security})]$.

[View Answer](#)

Answer: d

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Architectural Design”.

1. Architectural design is a creative process satisfying only functional-requirements of a system.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: In architectural design you design a system organization satisfying the functional and non-functional requirements of a system.

2. A _____ view shows the system hardware and how software components are distributed across the processors in the system.

- a) physical
- b) logical
- c) process
- d) all of the mentioned

[View Answer](#)

Answer: a

Explanation: A physical view is implemented by system engineers implementing the system hardware.

3. The UML was designed for describing _____

- a) object-oriented systems
- b) architectural design
- c) SRS

d) Both object-oriented systems and Architectural design

[View Answer](#)

Answer: d

Explanation: The UML was designed for describing object-oriented systems and, at the architectural design stage, you often want to describe systems at a higher level of abstraction.

4. Which of the following view shows that the system is composed of interacting processes at run time?

- a) physical
- b) development
- c) logical
- d) process

[View Answer](#)

Answer: d

Explanation: This view is useful for making judgments about non-functional system characteristics such as performance and availability.

5. Which of the following is an architectural conflict?

- a) Using large-grain components improves performance but reduces maintainability
- b) Introducing redundant data improves availability but makes security more difficult
- c) Localizing safety-related features usually means more communication so degraded performance
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: High availability architecture can be affected by several design factors that are required to be maintained to ensure that no single points of failure exist in such design.

6. Which of the following is not included in Architectural design decisions?

- a) type of application
- b) distribution of the system
- c) architectural styles
- d) testing the system

[View Answer](#)

Answer: d

Explanation: Architectural design decisions include decisions on the type of application, the distribution of the system, the architectural styles to be used, and the ways in which the architecture should be documented and evaluated.

7. Architecture once established can be applied to other products as well.

- a) True

- b) False

[View Answer](#)

Answer: b

Explanation: Systems in the same domain often have similar architectures that reflect domain concepts.

8. Which of the following pattern is the basis of interaction management in many web-based systems?

- a) architecture
- b) repository pattern
- c) model-view-controller
- d) different operating system

[View Answer](#)

Answer: c

Explanation: Model-View-Controller pattern is the basis of interaction management in many web-based systems.

9. What describes how a set of interacting components can share data?

- a) model-view-controller
- b) architecture pattern
- c) repository pattern
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: The majority of systems that use large amounts of data are organized around a shared database or repository.

10. Which view in architectural design shows the key abstractions in the system as objects or object classes?

- a) physical
- b) development
- c) logical
- d) process

[View Answer](#)

Answer: c

Explanation: It is possible to relate the system requirements to entities in a logical view.

11. Which of the following is a type of Architectural Model?

- a) Static structural model
- b) Dynamic process model
- c) Distribution model
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All these models reflects the basic strategy that is used to structure a system.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Architectural Patterns”.

1. Which of these following sensor is a useful as part of a burglar alarm system for commercial buildings?

- a) Movement detector
- b) Door sensor

- c) Window sensor
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: A burglar alarm system for commercial buildings include movement detectors in individual rooms, door sensors that detect corridor doors opening, and window sensors on ground-floor windows that can detect when a window has been opened.

2. Which of the following is not real-time architectural patterns that are commonly used?

- a) Asynchronous communication
- b) Observe and React
- c) Environmental Control
- d) Process Pipeline

[View Answer](#)

Answer: a

Explanation: These patterns can be combined and you will often see more than one of them in a single system.

3. A monitoring system examines its environment through

- a) operating system
- b) communication
- c) set of sensors
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: If some exceptional event or sensor state is detected by the system, the monitoring system takes some action. Often, this involves raising an alarm to draw an operator's attention to the event.

4. Which of the following is applicable on software radio?

- a) Environmental Control
- b) Process Pipeline
- c) Distributed system
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: A software radio accepts incoming packets of digital data representing the radio transmission and transforms these into a sound signal that people can listen to.

5. An example of a system that may use a process pipeline is a high-speed

- a) data distributing system
- b) data acquisition system
- c) data collector system
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Data acquisition systems collect data from sensors for subsequent processing and analysis.

6. Monitoring systems are an important class of embedded real-time systems.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: A monitoring system examines its environment through a set of sensors and, usually, displays the state of the environment in some way.

7. Which of the following is an example of a controller for a car braking system?

- a) Observe and React
- b) Process Pipeline
- c) Environmental Control
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: An anti-skid braking system in a car monitors the car's wheels and brake system .

8. ETL stands for

- a) Data Extraction Transformation & Loading
- b) Data Execution Transformation & Loading
- c) Extraction Transformation & Loading
- d) Execution Transformation & Loading

[View Answer](#)

Answer: a

Explanation: None.

9. Control systems may make use of the Environmental Control pattern, which is a general control pattern that includes _____ processes.

- a) sensor
- b) actuator
- c) pipeline
- d) both sensor and actuator

[View Answer](#)

Answer: d

Explanation: Such patterns are quite common in Environmental Control Systems.

10. _____ can be associated with a separate processor or core, so that the processing steps can be carried out in parallel.

- a) Process Pipeline
- b) Environmental Control
- c) Observe and React
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: The Process Pipeline pattern makes this rapid processing possible by breaking down the required data processing into a sequence of separate transformations, with each transformation carried out by an independent process.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Application Architectures”.

1. Which of the following examples is/are models of application architectures?

- a) a means of assessing components for reuse
- b) a design checklist
- c) a vocabulary for talking about types of applications
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: Application architectures encapsulate the principal characteristics of a class of systems.

2. ERP stands for

- a) Enterprise Research Planning
- b) Enterprise Resource Planning
- c) Enterprise Resource Package
- d) Enterprise Research Package

[View Answer](#)

Answer: b

Explanation: None.

3. Which of the following type describes application architectures?

- a) Transaction processing applications
- b) Language processing systems
- c) Client management systems
- d) Transaction processing applications and Language processing systems

[View Answer](#)

Answer: d

Explanation: Transaction processing applications are database-centered applications that process user requests for information and update the information in a database, while language processing systems are systems in which the user's intentions are expressed in a formal language.

4. All the operations in a transaction need to be completed before the database changes are made

-
- a) functional
 - b) available to the users
 - c) permanent
 - d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: This ensures that failure of operations within the transaction does not lead to inconsistencies in the database.

5. Systems that involve interaction with a shared database can be considered as.

- a) software-based

- b) transaction-based
- c) server-based
- d) client-based

[View Answer](#)

Answer: b

Explanation: Such systems with a shared database are also referred to as transaction based information systems.

6. What translates a natural or an artificial language into another representation of that language and, for programming languages also execute the resulting code?

- a) ERP systems
- b) Transaction-based information systems
- c) Language processing systems
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: In software engineering, compilers translate an artificial programming language into machine code.

7. Properties of a system such as performance and security are independent of the architecture used.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Properties such as performance, security, and availability are influenced by the architecture used.

8. Which of the following is/are commonly used architectural pattern(s)?

- a) Model-View-Controller
- b) Layered Architecture
- c) Client-server
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Commonly used architectural patterns include Model-View-Controller, Layered Architecture, Repository, Client-server, and Pipe and Filter.

9. A language-processing systems may translate an XML data description into

- a) a machine code
- b) an alternative XML representation
- c) machine code and alternative XML representation
- d) a software module

[View Answer](#)

Answer: c

Explanation: Such is the property and function of language processing system.

10. Transaction processing systems may be organized as a _____ architecture with system components responsible for input, processing, and output.

- a) Repository
- b) Client-server
- c) Model-View-Controller
- d) Pipe and Filter

[View Answer](#)

Answer: d

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Unified Modelling Language”.

1. Object oriented analysis and design can be handled by the one who knows UML.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: The Unified Modeling Language includes a set of graphic notation techniques to create visual models of object-oriented software-intensive systems.

2. At Conceptual level Class diagrams should include

- a) operations only
- b) attributes only
- c) both operations and attributes
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: In software engineering, a class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations, and the relationships among objects.

3. Select the statement true for activity diagrams.

- a) They can be used to discover parallel activities
- b) They are used to depict workflow for a particular business activity
- c) Activity diagram do not tell who does what and are difficult to trace back to object models
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Activity diagrams are graphical representations of workflows of step wise activities and actions with support for choice, iteration and concurrency.

4. Constraints can be represented in UML by

- a) {text}
- b) [text].
- c) Constraint

- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Constraints are represented by {text string}.

5. What is an object?

- a) An object is an instance of a class
- b) An object includes encapsulation of data
- c) An object is not an instance of a class
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: An object is an instance of a class.

6. What is an abstract class?

- a) A class that has direct instances, but whose descendants may have direct instances
- b) A class that has direct instances, but whose descendants may not have direct instances
- c) A class that has no direct instances, but whose descendants may have direct instances
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: An abstract type is a type in a nominative type system which cannot be instantiated directly.

7. Which of the following are the valid relationships in Use Case Diagrams

- a) Generalization
- b) Include
- c) Extend
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Generalization, include, extend all of these are valid relationships in use case diagrams.

8. Which of the following statement(s) is true about interaction diagrams?

- a) Interaction diagrams are at their best when they deal with one main design flow and not multiple variants that can happen
- b) Interaction diagrams are good at designing part or all of one use case's functionality across multiple objects
- c) Interaction diagrams allow the analyst to show iteration and conditional execution for messaging between objects
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Interaction diagram is used to describe some type of interactions among the different elements in the model. So this interaction is a part of dynamic behaviour of the system.

9. UML interfaces are used to:

- a) specify required services for types of objects
- b) program in Java, but not in C++ or Smalltalk
- c) define executable logic to reuse across classes
- d) define an API for all classes

[View Answer](#)

Answer: a

Explanation: An interface is like a template design for a class that contains no data or implementation; only definitions for methods, properties etc.

10. Referring to the attached diagram, the arrow indicates:

- a) Navigability
- b) Dependency
- c) Association
- d) Refers to

[View Answer](#)

Answer: a

Explanation: The arrows describe the ways you can navigate.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Building Blocks of UML”.

1. Which of the following is a building block of UML?

- a) Things
- b) Relationships
- c) Diagrams
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All are the building blocks of UML which are further sub-categorized.

2. Classes and interfaces are a part of

- a) Structural things
- b) Behavioral things
- c) Grouping things
- d) Annotational things

[View Answer](#)

Answer: a

Explanation: Structural things are mostly static parts of a model, representing elements that are either conceptual or physical.

3. What is a collection of operations that specify a service of a class or component?

- a) Use Case
- b) Actor
- c) Interface
- d) Relationship

[View Answer](#)

Answer: c

Explanation: None.

4. What is a physical element that exists at runtime in UML?

- a) A node
- b) An interface
- c) An activity
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: A node represents a computational resource.

5. What can be requested from any object of the class to affect behavior?

- a) object
- b) attribute
- c) operation
- d) instance

[View Answer](#)

Answer: c

Explanation: An operation is the implementation of a service that can be requested from any object of the class to affect behavior.

6. Which things are dynamic parts of UML models?

- a) Structural things
- b) Behavioral things
- c) Grouping things
- d) Annotational things

[View Answer](#)

Answer: b

Explanation: These are the verbs of a model, representing behavior over time and space.

7. Which diagram in UML emphasizes the time-ordering of messages?

- a) Activity
- b) Sequence
- c) Collaboration
- d) Class

[View Answer](#)

Answer: b

Explanation: This diagram is a model describing how groups of objects collaborate in some behavior over time.

8. Object diagram captures the behavior of a single use case.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Sequence Diagram is responsible for this.

9. If you are working on real-time process control applications or systems that involve concurrent processing, you would use a

- a) Activity diagram
- b) Sequence diagram
- c) Statechart diagram
- d) Object diagram

[View Answer](#)

Answer: c

Explanation: A statechart diagram shows a state machine, consisting of states, transitions, events, and activities.

10. Which diagram shows the configuration of run-time processing elements?

- a) Deployment diagram
- b) Component diagram
- c) Node diagram
- d) ER-diagram

[View Answer](#)

Answer: a

Explanation: A Deployment diagram shows the configuration of run-time processing elements and the software components, processes, and objects.

11. Which things in UML are the explanatory parts of UML models?

- a) Structural things
- b) Behavioral things
- c) Grouping things
- d) Annotational things

[View Answer](#)

Answer: d

Explanation: It include a note which is simply a symbol for rendering constraints and comments attached to an element or a collection of elements.

12. Which of the following term is best defined by the statement:"a structural relationship that specifies that objects of one thing are connected to objects of another"?

- a) Association
- b) Aggregation
- c) Realization
- d) Generalization

[View Answer](#)

Answer: a

Explanation: None.

13. What refers to the value associated with a specific attribute of an object and to any actions or side?

- a) Object
- b) State
- c) Interface
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: In a state chart diagram, effects occur when the attribute's value changes.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Diagrams in UML – 1”.

1. Which of the following UML diagrams has a static view?

- a) Collaboration
- b) Use case
- c) State chart
- d) Activity

[View Answer](#)

Answer: b

Explanation: A use case diagrams captures only the functionality of the system whereas a dynamic model/view captures the functions as well as the action.

2. What type of core-relationship is represented by the symbol in the figure below?



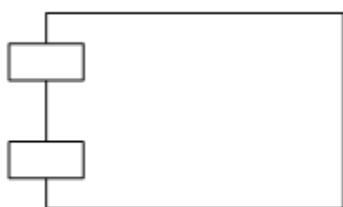
- a) Aggregation
- b) Dependency
- c) Generalization
- d) Association

[View Answer](#)

Answer: a

Explanation: None.

3. Which core element of UML is being shown in the figure?



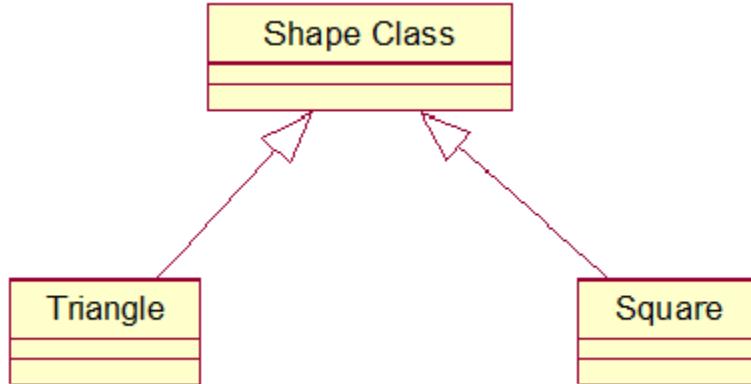
- a) Node
- b) Interface
- c) Class
- d) Component

[View Answer](#)

Answer: d

Explanation: The figure is self explanatory. A component is a modular, significant and replaceable part of the system that packages implementation and exposes a set of interfaces.

4. What type of relationship is represented by Shape class and Square ?



- a) Realization
- b) Generalization
- c) Aggregation
- d) Dependency

[View Answer](#)

Answer: b

Explanation: The generalization relationship is also known as the inheritance relationship. In the figure Square is the subclass of superclass shape.

5. Which diagram in UML shows a complete or partial view of the structure of a modeled system at a specific time?

- a) Sequence Diagram
- b) Collaboration Diagram
- c) Class Diagram
- d) Object Diagram

[View Answer](#)

Answer: d

Explanation: An object diagram focuses on some particular set of object instances and attributes, and the links between the instances. It is a static snapshot of a dynamic view of the system.

6. Interaction Diagram is a combined term for

- a) Sequence Diagram + Collaboration Diagram
- b) Activity Diagram + State Chart Diagram
- c) Deployment Diagram + Collaboration Diagram
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Interaction diagram are used to formalize the dynamic behavior of the system.

7. Structure diagrams emphasize the things that must be present in the system being modeled.

- a) True

b) False

[View Answer](#)

Answer: a

Explanation: Since structure diagrams represent the structure they are used extensively in documenting the architecture of software systems

8. Which of the following diagram is time oriented?

- a) Collaboration
- b) Sequence
- c) Activity
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: A sequence diagrams timeline along which tasks are completed.

This set of Software Engineering Multiple Choice Questions & Answers focuses on “Diagrams in UML – 2”.

1. How many diagrams are here in Unified Modelling Language?

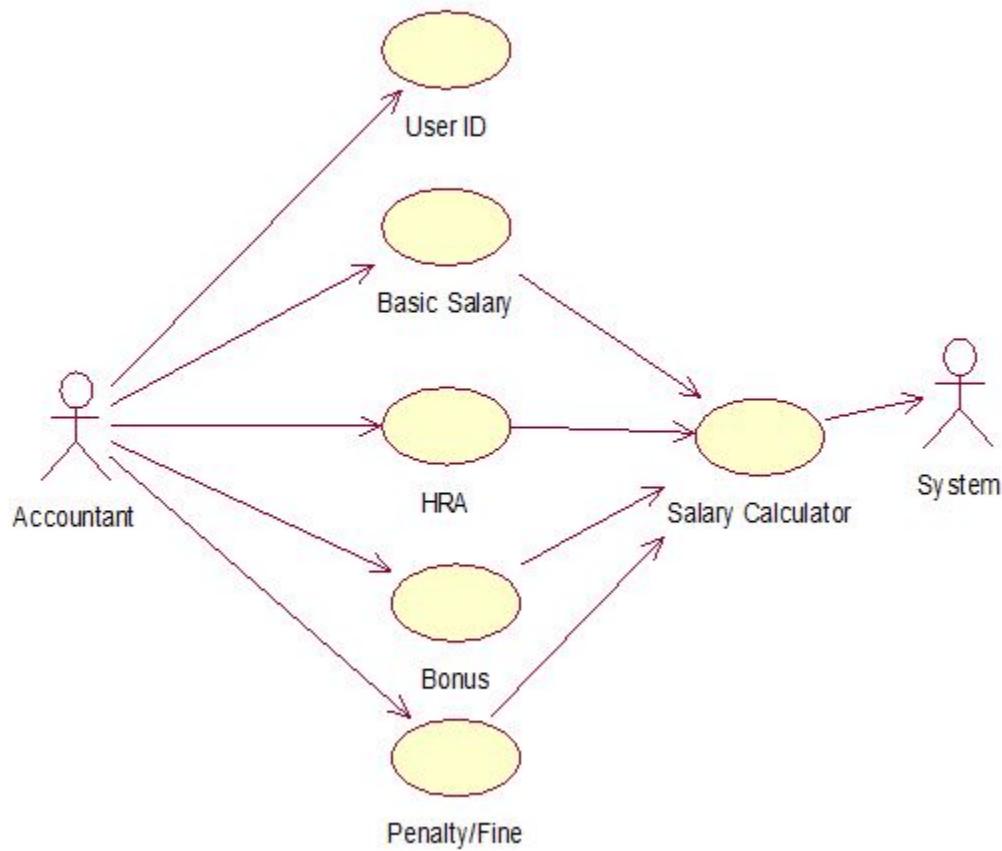
- a) six
- b) seven
- c) eight
- d) nine

[View Answer](#)

Answer: d

Explanation: The nine UML diagrams include use-case, sequence, collaboration, activity, state-chart, deployment, class, object and component.

2. Which UML diagram is shown below?



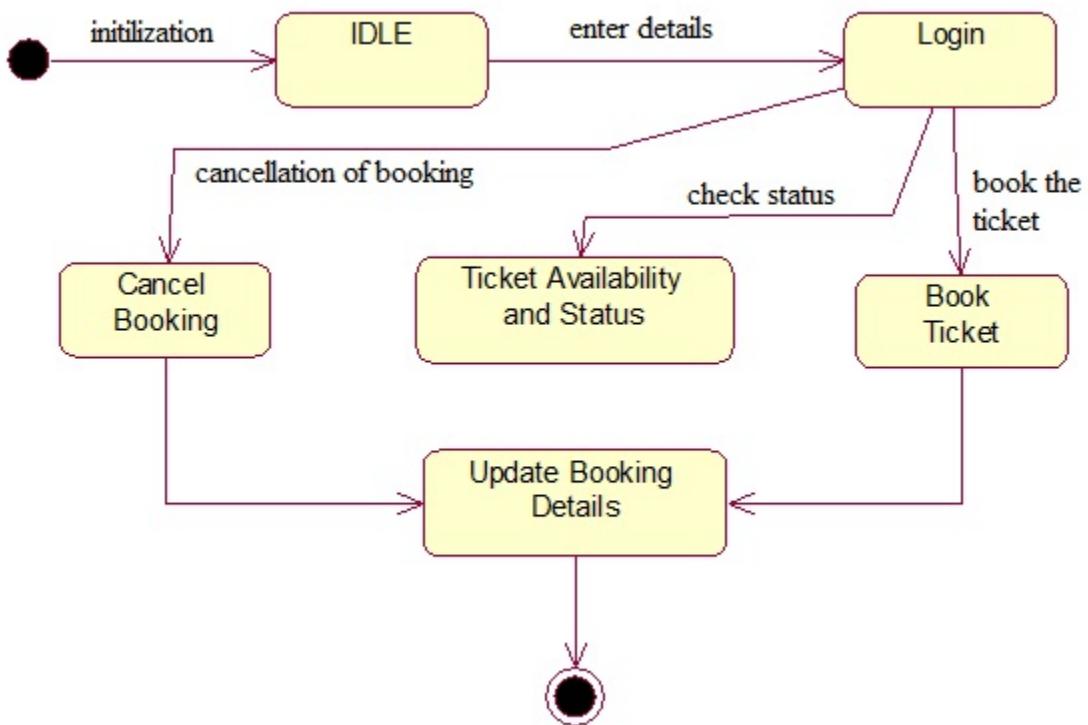
- a) Use Case
- b) Collaboration Diagram
- c) Class Diagram
- d) Object Diagram

[View Answer](#)

Answer: a

Explanation: None.

3. Which UML diagram is shown below?



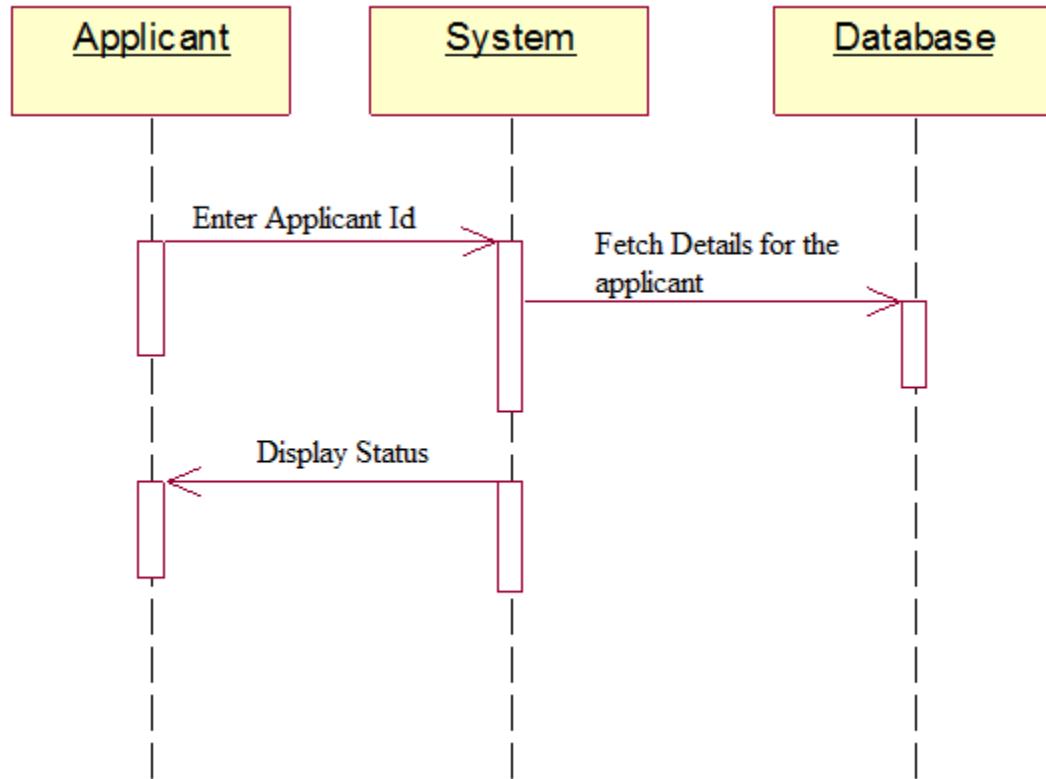
- a) Use Case
- b) State Chart
- c) Activity
- d) Object Diagram

View Answer

Answer: b

Explanation: None.

4. Which UML diagram is shown below?



- a) Use Case
- b) Collaboration Diagram
- c) Sequence Diagram
- d) Object Diagram

View Answer

Answer: c

Explanation: None.

5. Which UML diagram's symbols are shown below?



- a) Deployment diagram
- b) Collaboration Diagram
- c) Component Diagram

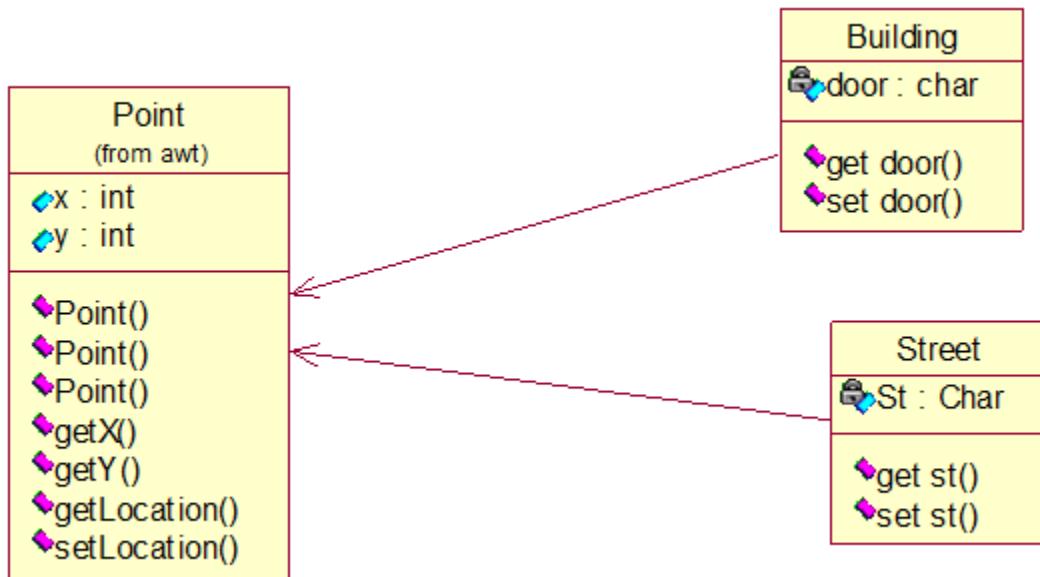
d) Object Diagram

View Answer

Answer: a

Explanation: None.

6. Which UML diagram is shown below?



a) Deployment diagram

b) Collaboration Diagram

c) Object Diagram

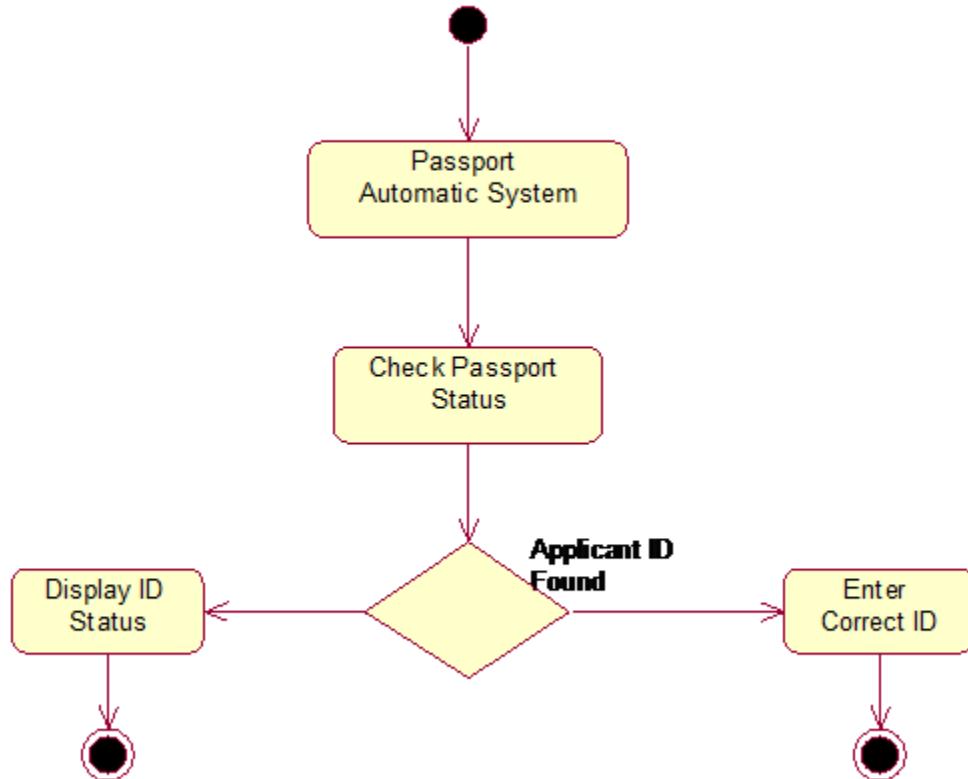
d) Class Diagram

View Answer

Answer: d

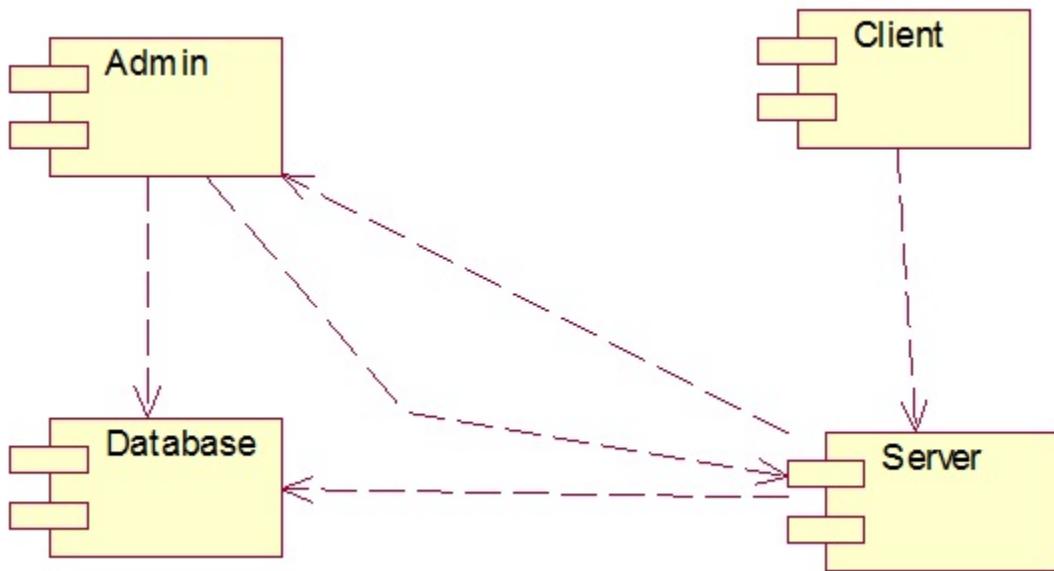
Explanation: None.

7. Which UML diagram is shown below?



- a) Activity
 - b) State chart
 - c) Sequence
 - c) Collaboration
- View Answer
Answer: a
Explanation: None.

8. Which UML diagram is shown below?



- a) Component
- b) Deployment
- c) Use Case
- d) DFD

[View Answer](#)

Answer: a

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Object Oriented Design using UML”.

1. Which of the following is not needed to develop a system design from concept to detailed object-oriented design?

- a) Designing system architecture
- b) Developing design models
- c) Specifying interfaces
- d) Developing a debugging system

[View Answer](#)

Answer: d

Explanation: The debugging system is a part of testing phase.

2. Which of the following is a dynamic model that shows how the system interacts with its environment as it is used?

- a) system context model
- b) interaction model
- c) environmental model
- d) both system context and interaction

[View Answer](#)

Answer: b

Explanation: None.

3. Which of the following is a structural model that demonstrates the other systems in the environment of the system being developed?

- a) system context model
- b) interaction model
- c) environmental model
- d) both system context and interaction

[View Answer](#)

Answer: a

Explanation: The context model of a system may be represented using associations. Associations simply show that there are some relationships between the entities involved in the association.

4. Which of the following come under system control?

- a) Reconfigure
- b) Shutdown
- c) Powersave
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Functionalities are governed by the system.

5. We use _____ where various parts of system use are identified and analyzed in turn.

- a) tangible entities
- b) scenario-based analysis
- c) design-based analysis
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Use a scenario-based analysis where various scenarios of system use are identified and analyzed in turn.

6. Which model describes the static structure of the system using object classes and their relationships?

- a) Sequence model
- b) Subsystem model
- c) Dynamic model
- d) Structural model

[View Answer](#)

Answer: d

Explanation: Important relationships that may be documented at this stage are generalization (inheritance) relationships, uses/used-by relationships, and composition relationships.

7. Which model shows the flow of object interactions?

- a) Sequence model
- b) Subsystem model
- c) Dynamic model

d) Both Sequence and Dynamic model

[View Answer](#)

Answer: a

Explanation: Sequence model are represented using a UML sequence or a collaboration diagram and are dynamic models.

8. If the system state is Shutdown then it can respond to which of the following message?

- a) restart()
- b) reconfigure()
- c) powerSave()
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: A restart() message causes a transition to normal operation. Both the powerSave() and reconfigure() messages cause a transition to a state in which the system reconfigures itself.

9. Which message is received so that the system moves to the Testing state, then the Transmitting state, before returning to the Running state?

- a) signalStatus()
- b) remoteControl()
- c) reconfigure()
- d) reportStatus()

[View Answer](#)

Answer: d

Explanation: None.

10. Open source development involves making the source code of a system publicly available.

a) True

b) False

[View Answer](#)

Answer: a

Explanation: This means that many people can propose changes and improvements to the software.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Analysis Modelling”.

1. Which of the following is not the primary objectives in the analysis model?

- a) describing the customer complaints
- b) establishing a basis for the creation of a software design
- c) defining a set of requirements that can be validated once the software is built
- d) none of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options are covered in analysis model.

2. A description of each function presented in the DFD is contained in a _____

- a) data flow

- b) process specification
- c) control specification
- d) data store

[View Answer](#)

Answer: b

Explanation: None.

3. Which diagram indicates the behaviour of the system as a consequence of external events?

- a) data flow diagram
- b) state transition diagram
- c) control specification diagram
- d) workflow diagram

[View Answer](#)

Answer: b

Explanation: The state transition diagram represents the various modes of behavior (called states) of the system and the manner in which transitions are made from state to state.

4. A data model contains

- a) data object
- b) attributes
- c) relationships
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: The data model consists of three interrelated pieces of information: the data object, the attributes that describe the data object, and the relationships that connect data objects to one another.

5. _____ defines the properties of a data object and take on one of the three different characteristics.

- a) data object
- b) attributes
- c) relationships
- d) data object and attributes

[View Answer](#)

Answer: b

Explanation: They can be used to name an instance of the data object, describe the instance, or make reference to another instance in another table.

6. The _____ of a relationship is 0 if there is no explicit need for the relationship to occur or the relationship is optional.

- a) modality
- b) cardinality
- c) entity
- d) structured analysis

[View Answer](#)

Answer: a

Explanation: The modality is 1 if an occurrence of the relationship is mandatory, else 0 for optional relationship.

7. A _____ is a graphical representation that depicts information flow and the transforms that are applied as data moves from input to output.

- a) data flow diagram
- b) state transition diagram
- c) control specification
- d) workflow diagram

[View Answer](#)

Answer: b

Explanation: The basic form of a data flow diagram, also known as a data flow graph or a bubble chart.

8. A data condition occurs whenever a data is passed to an input element followed by a processing element and the result in control output.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Standard flow of condition check.

9. The _____ enables the software engineer to develop models of the information domain and functional domain at the same time

- a) data flow diagram
- b) state transition diagram
- c) control specification
- d) activity diagram

[View Answer](#)

Answer: a

Explanation: As the DFD is refined into greater levels of detail, the analyst performs an implicit functional decomposition of the system, thereby accomplishing the fourth operational analysis principle for function.

10. The _____ contains a state transition diagram that is a sequential specification of behavior.

- a) data flow diagram
- b) state transition diagram
- c) control specification
- d) workflow diagram

[View Answer](#)

Answer: c

Explanation: The control specification(CSPEC) describes the behavior of the system, but it gives us no information about the inner working of the processes that are activated as a result of this behavior .

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Component Level Design”.

1. Which of the following is not a construct?

- a) sequence
- b) condition
- c) repetition
- d) selection

[View Answer](#)

Answer: d

Explanation: Sequence implements processing steps that are essential in the specification of any algorithm. Condition provides the facility for selected processing based on some logical occurrence, and repetition allows for looping.

2. Which of the following steps is applied to develop a decision table?

- a) List all actions that can be associated with a specific procedure
- b) List all conditions during execution of the procedure
- c) Define rules by indicating what action(s) occurs for a set of conditions
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: A decision table includes action stub and a condition stub with a set of rules.

3. _____ is a pidgin(simplified version of a language that develops as a means of communication between two or more groups that do not have a language in common)

- a) program design language
- b) structured English
- c) pseudocode
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: The difference between PDL and a real programming language lies in the use of narrative text embedded directly within PDL statements.

4. Which of the following term is best defined by the statement: "The ability to represent local and global data is an essential element of component-level design."?

- a) Data representation
- b) Logic verification
- c) "Code-to" ability
- d) Automatic processing

[View Answer](#)

Answer: a

Explanation: None.

5. A software component

- a) Implements some functionality
- b) Has explicit dependencies through provides and required interfaces

- c) Communicates through its interfaces only
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options identify with features of a software component.

6. Which diagram evolved from a desire to develop a procedural design representation that would not allow violation of the structured constructs?

- a) State transition diagram
- b) Box diagram
- c) ER diagram
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

7. A _____ executes the loop task first, then tests a condition and repeats the task until the condition fails.

- a) repeat until
- b) condition
- c) do while tests
- d) if then-else

[View Answer](#)

Answer: a

Explanation: None.

8. Which of the following is not a characteristics of box diagram?

- a) functional domain
- b) arbitrary transfer of control is impossible
- c) recursion is easy to represent
- d) providing a notation that translates actions and conditions

[View Answer](#)

Answer: d

Explanation: This functionality is covered by UML diagrams.

9. The _____ is represented as two processing boxes connected by an line (arrow) of control.

- a) Repetition
- b) Sequence
- c) Condition
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

10. Which of the following term is best defined by the statement “Notation that can be input directly into a computer-based development system offers significant benefits.”?

- a) Machine readability
- b) Maintainability

- c) Structure enforcement
- d) Overall simplicity

[View Answer](#)

Answer: a

Explanation: Readability is processing input.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “User Interface Design”.

1. Which of the following is golden rule for interface design?

- a) Place the user in control
- b) Reduce the user’s memory load
- c) Make the interface consistent
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: These golden rules actually form the basis for a set of user interface design principles that guide this important software design activity.

2. Which of the following is not a design principle that allow the user to maintain control?

- a) Provide for flexible interaction
- b) Allow user interaction to be interrupt-able and undo-able
- c) Show technical internals from the casual user
- d) Design for direct interaction with objects that appear on the screen

[View Answer](#)

Answer: c

Explanation: The user interface should move the user into the virtual world of the application.

3. Which of the following is not a user interface design process?

- a) User, task, and environment analysis and modeling
- b) Interface design
- c) Knowledgeable, frequent users
- d) Interface validation

[View Answer](#)

Answer: c

Explanation: These are the end user for whom the product is being built.

4. When users are involved in complex tasks, the demand on _____ can be significant.

- a) short-term memory
- b) shortcuts
- c) objects that appear on the screen
- d) all of the mentioned

[View Answer](#)

Answer: a

Explanation: The interface should be designed to reduce the requirement to remember past actions and results.

5. Which of the following option is not considered by the Interface design?

- a) the design of interfaces between software components
- b) the design of interfaces between the software and human producers and consumers of information
- c) the design of the interface between two computers
- d) all of the mentioned

[View Answer](#)

Answer: c

Explanation: None

6. A software might allow a user to interact via

- a) keyboard commands
- b) mouse movement
- c) voice recognition commands
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: All the mentioned input mediums are available today.

7. A software engineer designs the user interface by applying an iterative process that draws on predefined design principles.

- a) True

- b) False

[View Answer](#)

Answer: a

Explanation: The statement is true.

8. What incorporates data, architectural, interface, and procedural representations of the software?

- a) design model
- b) user's model
- c) mental image
- d) system image

[View Answer](#)

Answer: a

Explanation: The requirements specification may establish certain constraints that help to define the user of the system, but the interface design is often only incidental to the design model.

9. What establishes the profile of end-users of the system?

- a) design model
- b) user's model
- c) mental image
- d) system image

[View Answer](#)

Answer: b

Explanation: To build an effective user interface, all design should begin with an understanding of the intended users, including their profiles of their age, physical abilities, education, etc.

10. What combines the outward manifestation of the computer-based system , coupled with all supporting information that describe system syntax and semantics?

- a) mental image
- b) interface design
- c) system image
- d) interface validation

[View Answer](#)

Answer: c

Explanation: When the system image and the system perception are coincident, users generally feel comfortable with the software and use it effectively.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Test Case Design”.

1. What do you understand by V&V in software testing?

- a) Verified Version
- b) Version Validation
- c) Verification and Validation
- d) Version Verification

[View Answer](#)

Answer: c

Explanation: V&V generally refers to any activity that attempts to ensure that the software will function as required.

2. In static test techniques, behavioral and performance properties of the program are observed.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Static Analysis Techniques are based solely on the (manual or automated) examination of project documentation of software models and code.

3. Which granularity level of testing checks the behavior of module cooperation?

- a) Unit Testing
- b) Integration Testing
- c) Acceptance Testing
- d) Regression Testing

[View Answer](#)

Answer: b

Explanation: Integration testing is the phase in software testing in which individual software modules are combined and tested as a group.

4. Which test refers to the retesting of a unit, integration and system after modification, in order to ascertain that the change has not introduced new faults?

- a) Regression Test
- b) Smoke Test
- c) Alpha Test

d) Beta Test

[View Answer](#)

Answer: a

Explanation: Regression test seeks to uncover new software bugs in existing functional and non-functional areas of a system after changes have been made to them.

5. Which of the following is a black box testing strategy?

- a) All Statements Coverage
- b) Control Structure Coverage
- c) Cause-Effect Graphs
- d) All Paths Coverage

[View Answer](#)

Answer: c

Explanation: Rest are test strategies of white box testing.

6. A set of inputs, execution preconditions and expected outcomes is known as a

- a) Test plan
- b) Test case
- c) Test document
- d) Test Suite

[View Answer](#)

Answer: b

Explanation: None.

7. In which test design each input is tested at both ends of its valid range and just outside its valid range?

- a) Boundary value testing
- b) Equivalence class partitioning
- c) Boundary value testing AND Equivalence class partitioning
- d) Decision tables

[View Answer](#)

Answer: a

Explanation: Boundary value analysis is a software testing technique in which tests are designed to include representatives of boundary values.

8. A white box test scales up well at different granularity levels of testing.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: A white box test is mostly applicable at unit and integration testing level.

9. When does the testing process stops?

- a) When resources (time and budget) are over
- b) When some coverage is reached
- c) When quality criterion is reached
- d) Testing never ends

[View Answer](#)

Answer: c

Explanation: As software testing is an exhaustive process, when the quality assurance is established and the product is ready to be delivered, testing is stopped.

10. Which of the following is not a part of a test design document?

- a) Test Plan
- b) Test Design Specification
- c) Test Case Specification
- d) Test Log

[View Answer](#)

Answer: d

Explanation: Test log is a part of testing result document.

11. Specifying a set of test cases or test paths for each item to be tested at that level is known as

- a) Test case generation
- b) Test case design
- c) ALL of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

12. Acceptance & system test planning are a part of architectural design.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: They are a part of requirements engineering, while integration & unit test planning come under architectural design.

13. PRD stands for

- a) Product Requirement Document
- b) Project Requirement Document
- c) Product Restrictions Document
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: A product requirements document (PRD) is a document written by a company that defines a product they are making, or the requirements for one or more new features for an existing product.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Design Pattern”.

1. Which mechanism is applied to use a design pattern in an OO system?

- a) Inheritance
- b) Composition
- c) All of the mentioned

d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Using inheritance, an existing design pattern becomes a template for a new subclass. Composition is a concept that leads to aggregate objects.

2. Design patterns does not follow the concept of software reuse.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Design patterns allow the designer to create the system architecture by integrating reusable components.

3. The use of design patterns for the development of object-oriented software has important implications for

a) Component-based software engineering

b) Reusability in general

c) All of the mentioned

d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

4. Which of the following is a design pattern?

a) Behavioral

b) Structural

c) Abstract Factory

d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options are design patterns so option d.

5. You want to minimize development cost by reusing methods? Which design pattern would you choose?

a) Adapter Pattern

b) Singleton Pattern

c) Delegation pattern

d) Immutable Pattern

[View Answer](#)

Answer: c

Explanation: The delegation pattern is a design pattern in OOP where an object, instead of performing one of its stated tasks, delegates that task to an associated helper object.

6. You want to avoid multiple inheritance. Which design pattern would you choose?

a) Abstraction-Occurrence Pattern

b) Player-Role Pattern

c) General Hierarchy Pattern

d) Singleton Pattern

[View Answer](#)

Answer: b

Explanation: The answer is self-explanatory.

7. The recurring aspects of designs are called design

- a) patterns
- b) documents
- c) structures
- d) methods

[View Answer](#)

Answer: a

Explanation: A pattern is the outline of a reusable solution to a general problem encountered in a particular context.

8. Design pattern is a solution to a problem that occurs repeatedly in a variety of contexts.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Each design pattern has a name and use of each pattern has consequences.

9. Which pattern prevents one from creating more than one instance of a variable?

- a) Factory Method
- b) Singleton
- c) Observer
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: In singleton pattern, the class itself is made responsible for keeping track of its instance. Thus it ensures that no more than one instance is created.

10. Facade pattern promotes weak coupling between subsystem and its clients.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: It is one of the patterns benefit. The facade pattern shields clients from subsystem classes and reduces the number of objects that clients deal with.

11. Which design pattern defines one-to-many dependency among objects?

- a) Singleton pattern
- b) Facade Pattern
- c) Observer pattern
- d) Factory method pattern

[View Answer](#)

Answer: c

Explanation: Observer pattern defines one-to-many dependency among objects so that when one object changes its state, all its dependents are notified.

12. Facade pattern couples a subsystem from its clients.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: A facade can be a single entry point to each subsystem level. It decouples the subsystem.

13. In factory method pattern, the framework must instantiate classes but it only knows about the abstract classes, which it cannot initiate. How would one solve this problem?

a) encapsulating the knowledge of which document subclass to is to be created and

b) moving this knowledge out of the framework

c) instantiating the application specific documents without knowing their class

d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: Following all the options in order will solve the factory method problem.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Testing Techniques – 1”.

1. Which of the following term describes testing?

a) Finding broken code

b) Evaluating deliverable to find errors

c) A stage of all projects

d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Software testing is the process of evaluation a software item to detect differences between given input and expected output.

2. What is Cyclomatic complexity?

a) Black box testing

b) White box testing

c) Yellow box testing

d) Green box testing

[View Answer](#)

Answer: b

Explanation: Cyclomatic complexity measures the amount of decision logic in the program module. Cyclomatic complexity gives the minimum number of paths that can generate all possible paths through the module.

3. Lower and upper limits are present in which chart?

a) Run chart

- b) Bar chart
- c) Control chart
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: A run chart is used to monitor the behavior of a variable over time for a process or system. Run charts graphically display cycles, trends, shifts, or non-random patterns in behavior over time. It contains lower and upper limits.

4. Maintenance testing is performed using which methodology?

- a) Retesting
- b) Sanity testing
- c) Breadth test and depth test
- d) Confirmation testing

[View Answer](#)

Answer: c

Explanation: Maintenance Testing is done on the already deployed software. The deployed software needs to be enhanced, changed or migrated to other hardware. The Testing done during this enhancement, change and migration cycle is known as maintenance testing.

5. White Box techniques are also classified as

- a) Design based testing
- b) Structural testing
- c) Error guessing technique
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: The structural testing is the testing of the structure of the system or component. Structural testing is often referred to as ‘white box’ or ‘glass box’ or ‘clear-box testing’ because in structural testing we are interested in what is happening ‘inside the system/application’.

6. Exhaustive testing is

- a) always possible
- b) practically possible
- c) impractical but possible
- d) impractical and impossible

[View Answer](#)

Answer: c

Explanation: Exhaustive testing is the testing where we execute single test case for multiple test data. It means if we are using single test case for different product or module under manual testing.

testing .

7. Which of the following is/are White box technique?

- a) Statement Testing
- b) Decision Testing
- c) Condition Coverage

d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Statement testing, decision testing, condition coverage all of them uses white box technique.

8. What are the various Testing Levels?

a) Unit Testing

b) System Testing

c) Integration Testing

d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Unit, system, integration testing all of them are levels in testing.

9. Boundary value analysis belong to?

a) White Box Testing

b) Black Box Testing

c) White Box & Black Box Testing

d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Boundary value analysis is based on testing at the boundaries between partitions and checks the output with expected output.

10. Alpha testing is done at

a) Developer's end

b) User's end

c) Developer's & User's end

d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Alpha testing takes place at the developer's end. Developers observe the users and note problems. Alpha testing is testing of an application when development is about to complete. Minor design changes can still be made as a result of alpha testing.

This set of Software Engineering online test focuses on “Software Testing Techniques – 2”.

1. The testing in which code is checked

a) Black box testing

b) White box testing

c) Red box testing

d) Green box testing

[View Answer](#)

Answer: b

Explanation: White-box testing is a method of testing software that tests internal structures or workings of an application, as opposed to its functionality .

2. Testing done without planning and Documentation is called

- a) Unit testing
- b) Regression testing
- c) Adhoc testing
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Adhoc testing is used term for software testing performed without planning and documentation. The tests are intended to be run only once, unless a defect is discovered.

3. Acceptance testing is also known as

- a) Grey box testing
- b) White box testing
- c) Alpha Testing
- d) Beta testing

[View Answer](#)

Answer: d

Explanation: Acceptance testing is a test conducted to determine if the requirements of a specification or contract are met and is done by users.

4. Which of the following is non-functional testing?

- a) Black box testing
- b) Performance testing
- c) Unit testing
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Performance testing is in general testing performed to determine how a system performs in terms of responsiveness and stability under a particular workload.

5. Beta testing is done at

- a) User's end
- b) Developer's end
- c) User's & Developer's end
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: In beta testing the user evaluates the product and gives his feedback.

6. SPICE stands for

- a) Software Process Improvement and Compatibility Determination
- b) Software Process Improvement and Control Determination
- c) Software Process Improvement and Capability Determination
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: SPICE stands for Software Process Improvement and Control Determination.

7. Unit testing is done by

- a) Users
- b) Developers
- c) Customers
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Unit testing is a method by which individual units of source code, sets of one or more computer program modules together with associated control data, usage procedures, and operating procedures are tested to determine if they are fit for use.

8. Behavioral testing is

- a) White box testing
- b) Black box testing
- c) Grey box testing
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Black-box testing is a method of software testing that examines the functionality of an application without peering into its internal structures or workings.

9. Which of the following is black box testing

- a) Basic path testing
- b) Boundary value analysis
- c) Code path analysis
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: Boundary value analysis is a software testing technique in which tests are designed to include representatives of boundary values.

10. Which of the following is not used in measuring the size of the software

- a) KLOC
- b) Function Points
- c) Size of module
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: KLOC and function points both can be used as size measurement for measuring the size of the software.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Testing Strategies”.

1. Software Debugging is a set of activities that can be planned in advance and conducted systematically.

- a) True

b) False

[View Answer](#)

Answer: b

Explanation: Software Testing is a set of such activities.

2. Which of the following is not a software testing generic characteristics?

- a) Different testing techniques are appropriate at different points in time
- b) Testing is conducted by the developer of the software or an independent test group
- c) Testing and debugging are different activities, but debugging must be accommodated in any testing strategy
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

3. ITG stands for

- a) instantaneous test group
- b) integration testing group
- c) individual testing group
- d) independent test group

[View Answer](#)

Answer: d

Explanation: The role of an independent test group (ITG) is to remove the inherent problems associated with letting the builder test the thing that has been built.

4. By collecting _____ during software testing, it is possible to develop meaningful guidelines to halt the testing process.

- a) Failure intensity
- b) Testing time
- c) Metrics
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: It answers questions like: “When are we done with testing?”.

5. Which of the following issues must be addressed if a successful software testing strategy is to be implemented?

- a) Use effective formal technical reviews as a filter prior to testing
- b) Develop a testing plan that emphasizes “rapid cycle testing.”
- c) State testing objectives explicitly
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the mentioned options are carried out for the purpose.

6. Test cases should uncover errors like

- a) Nonexistent loop termination
- b) Comparison of different data types

- c) Incorrect logical operators or precedence
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Test cases should uncover errors such as all the explained options and much more.

7. Which of the following errors should not be tested when error handling is evaluated?

- a) Error description is unintelligible
- b) Error noted does not correspond to error encountered
- c) Error condition causes system intervention prior to error handling
- d) Error description provide enough information to assist in the location of the cause of the error

[View Answer](#)

Answer: a

Explanation: Actually, error description does not provide enough information to assist in the location of the cause of the error.

8. What is normally considered as an adjunct to the coding step

- a) Integration testing
- b) Unit testing
- c) Completion of Testing
- d) Regression Testing

[View Answer](#)

Answer: b

Explanation: After source level code has been developed, reviewed, and verified for correspondence to component level design, unit test case design begins.

9. Which of the following is not regression test case?

- a) A representative sample of tests that will exercise all software functions
- b) Additional tests that focus on software functions that are likely to be affected by the change
- c) Tests that focus on the software components that have been changed
- d) Low-level components are combined into clusters that perform a specific software sub-function

[View Answer](#)

Answer: d

Explanation: Regression testing may be conducted manually, by re-executing a subset of all test cases or using automated capture or playback tools

10. Which testing is an integration testing approach that is commonly used when “shrink-wrapped” software products are being developed?

- a) Regression Testing
- b) Integration testing
- c) Smoke testing
- d) Validation testing

[View Answer](#)

Answer: c

Explanation: Smoke testing is designed as a pacing mechanism for time-critical projects, allowing the software team to assess its project on a frequent basis.

11. In which testing level the focus is on customer usage?

- a) Alpha Testing
- b) Beta Testing
- c) Validation Testing
- d) Both Alpha and Beta

[View Answer](#)

Answer: d

Explanation: Alpha testing is done at developer's end while beta testing is done at user's end.

12. Validation refers to the set of tasks that ensure that software correctly implements a specific function.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Its verification, while validation refers to a different set of tasks that ensure that the software that has been built is traceable to customer requirements.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Object Oriented Testing”.

1. The architecture of object-oriented software results in a series of layered subsystems that encapsulate collaborating classes.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: It is necessary to test an OO system at a variety of different levels in an effort to uncover errors that may occur as classes collaborate with one another and subsystems communicate across architectural layers.

2. The construction of object-oriented software begins with the creation of

- a) design model
- b) analysis model
- c) code levels
- d) both design and analysis model

[View Answer](#)

Answer: d

Explanation: It is due to the evolutionary nature of the OO software engineering paradigm, these models begin as relatively informal representations of system requirements and evolve into detailed models of classes, class connections and relationships, system design and allocation, and object design.

3. Which testing integrates the set of classes required to respond to one input or event for the system?

- a) cluster testing
- b) thread-based testing

- c) use-based testing
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Each thread is integrated and tested individually. Regression testing is applied to ensure that no side effects occur.

4. Which of the following is one of the steps in the integration testing of OO software?

- a) cluster testing
- b) thread-based testing
- c) use-based testing
- d) none of the mentioned

[View Answer](#)

Answer: a

Explanation: Here, a cluster of collaborating classes is exercised by designing test cases that attempt to uncover errors in the collaborations.

5. _____ methods can be used to drive validations tests

- a) Yellow-box testing
- b) Black-box testing
- c) White-box testing
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Black-box testing methods are as appropriate for OO systems as they are for systems developed using conventional software engineering methods.

6. Which of the following is a part of testing OO code?

- a) Validation tests
- b) Integration tests
- c) Class tests
- d) System tests

[View Answer](#)

Answer: c

Explanation: None.

7. The object of _____ within an OO system is to design tests that have a high likelihood of uncovering plausible bugs.

- a) Fault-based testing
- b) Integration testing
- c) Use-based testing
- d) Scenario-based testing

[View Answer](#)

Answer: a

Explanation: The object of fault-based testing within an OO system is to design tests that have a high likelihood of uncovering plausible faults.

8. What refers to the externally observable structure of an OO program?

- a) Deep structure
- b) Surface structure
- c) Core structure
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Surface structure refers to the externally observable structure of an OO program which is immediately obvious to an end-user.

9. _____ categorizes class operations based on the generic function that each performs.

- a) Category-based partitioning
- b) Attribute-based partitioning
- c) State-based partitioning
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: For example, operations in the account class can be categorized in initialization operations (open, setup), computational operations (deposit, withdraw) etc.

10. Which of the following is black-box oriented and can be accomplished by applying the same black-box methods discussed for conventional software?

- a) Conventional testing
- b) OO system validation testing
- c) Test case design
- d) Both Conventional testing and OO system validation testing

[View Answer](#)

Answer: d

Explanation: None.

11. In which of the following testing strategies, a smallest testable unit is the encapsulated class or object?

- a) Unit testing
- b) Integration testing
- c) System testing
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

12. Which of the following testing types is not a part of system testing?

- a) Recovery testing
- b) Stress testing
- c) System testing
- d) Random testing

[View Answer](#)

Answer: d

Explanation: It is a testing method at class level.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Debugging Techniques and Approaches”.

1. What is testing process' first goal?

- a) Bug prevention
- b) Testing
- c) Execution
- d) Analyses

[View Answer](#)

Answer: a

Explanation: Its better to prevent a bug rather than putting time in its testing and removal.

2. Software mistakes during coding are known as

- a) errors
- b) failures
- c) bugs
- d) defects

[View Answer](#)

Answer: c

Explanation: A software bug is an error, flaw, failure, or fault in a computer program or system that causes it to produce an incorrect or unexpected result.

3. Name an evaluation technique to assess the quality of test cases.

- a) Mutation analysis
- b) Validation
- c) Verification
- d) Performance analysis

[View Answer](#)

Answer: a

Explanation: Mutation analysis is used to design new software tests and evaluate the quality of existing software tests.

4. Test should be conducted for every possible

- a) data
- b) case
- c) variable
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: It increases the scope for code inspection.

5. Which of the following is not a part of bug report?

- a) Test case
- b) Output
- c) Software Version
- d) LOC

[View Answer](#)

Answer: d

Explanation: Line of code(LOC) is immaterial during testing, as it is an exhaustive process.

6. Which of the following is not a part of Execution Flow during debugging?

- a) Step Over
- b) Step Into
- c) Step Up
- d) Step Out

[View Answer](#)

Answer: c

Explanation: Step Into executes code, Step Out continues execution until bound value and Step Over is to execute code without stopping.

7. Cyclomatic Complexity method comes under which testing method.

- a) Yellow box
- b) White box
- c) Gray box
- d) Black box

[View Answer](#)

Answer: b

Explanation: Cyclomatic Complexity tells us about the number of independent paths in a program which is covered in white box testing.

8. Which is a black box testing technique appropriate to all levels of testing?

- a) Acceptance testing
- b) Regression testing
- c) Equivalence partitioning
- d) Quality assurance

[View Answer](#)

Answer: c

Explanation: Equivalence partitioning is a software testing technique that divides the input data of a software unit into partitions of equivalent data from which test cases can be derived.

9. Which of the following is the way of ensuring that the tests are actually testing code?

- a) Control structure testing
- b) Complex path testing
- c) Code coverage
- d) Quality assurance of software

[View Answer](#)

Answer: c

Explanation: None.

10. Effective testing will reduce _____ cost.

- a) maintenance
- b) design
- c) coding
- d) documentation

[View Answer](#)

Answer: a

Explanation: Remaining options are a part of development process.

11. Which of the following is a common pointer problem?

- a) Data sharing errors
- b) Accessing data elements of the wrong type
- c) Attempting to use memory areas after freeing them
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: These are the common errors programmers make while coding.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Testing Tools”.

1. Standard Enforcer is a

- a) Static Testing Tool
- b) Dynamic Testing
- c) Static & Dynamic Testing
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Static Testing tools are those that perform analysis of the program without executing them at all.

2. Many applications using static analysis find 0.1-0.2% NCSS. NCSS stands for

- a) Non-Code Source Statement
- b) Non Comment Source Sentence
- c) Non-Comment Source Statement
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

3. Which testing tool does a simple job of enforcing standards in a uniform way of many programs?

- a) Static Analyzer
- b) Code Inspector
- c) Standard Enforcer
- d) Both Code Inspector & Standard Enforcer

[View Answer](#)

Answer: d

Explanation: A standard enforcer is just like a code inspector, except that the rules are generally simpler. Standard enforcer looks at only single statements while the static analyzer looks at whole programs.

4. Software Testing with real data in real environment is known as

- a) alpha testing

- b) beta testing
- c) regression testing
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Beta testing is the last stage of testing, and normally can involve sending the product to beta test sites outside the company for real-world exposure or offering the product for a free trial download over the Internet.

5. Which of the following testing tools examine program systematically & automatically ?

- a) Code Inspector
- b) Static Analyzer
- c) Standard Enforcer
- d) Coverage Analyzer

[View Answer](#)

Answer: b

Explanation: A static analyzer operates from a pre-computed database of descriptive information derived from the source text of the program.

6. Which testing tool is responsible for documenting programs ?

- a) Test/File Generator
- b) Test Harness System
- c) Test Archiving Systems
- d) Coverage Analyzer

[View Answer](#)

Answer: c

Explanation: The answer is self-explanatory.

7. Beta Testing is done by

- a) Developers
- b) Testers
- c) Users
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

8. Standard enforcer tool looks at the whole program.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: This tool looks at only single statements.

9. Debugging Program is a program which runs concurrently with the program under test & provide commands to

- a) examine memory & registers
- b) stop execution at a particular point

- c) search for references for particular variables, constant and registers
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: Debugging is a methodical process of finding and reducing the number of bugs, or defects, in a computer program or a piece of electronic hardware, thus making it behave as expected.

10. Execution Verifier is a dynamic tool that is also known as

- a) Test File Generator
- b) Coverage Analyzer
- c) Output Comparator
- d) Test Harness System

[View Answer](#)

Answer: b

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Monitoring”.

1. Why is software difficult to build ?

- a) Controlled changes
- b) Lack of reusability
- c) Lack of monitoring
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Monitoring is a key aspect which requires much attention for a successful build.

2. Which of the following is not a conflict in software development team?

- a) Simultaneous updates
- b) Shared and common code
- c) Versions
- d) Graphics issues

[View Answer](#)

Answer: d

Explanation: These are part of design, which can be handled by the design team.

3. Which of the following lasts for the duration of the project and covers the development process?

- a) Monitoring all key parameters like cost, schedule, risks
- b) Taking corrective actions when needed
- c) Providing information on the development process in terms of metrics
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

4. Which of the following is not a typical environment in communication facilitation ?

- a) Multiple teams
- b) Multiple user groups
- c) Multiple fests
- d) Multiple locations

[View Answer](#)

Answer: c

Explanation: The answer is not related to the question.

5. Which of the following is a software process ?

- a) Analysis and design
- b) Configuration and management
- c) Business modeling
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

6. Which of the following is not included in Issues Meetings?

- a) Issues gathered the day before
- b) Regular schedule of meeting
- c) Discussion with business
- d) Attendance

[View Answer](#)

Answer: c

Explanation: Discussion with business is planning in QA Meetings.

7. Which of the following is not a part of Software Configuration Management Basics?

- a) Identification
- b) Version
- c) Auditing and Reviewing
- d) Status Accounting

[View Answer](#)

Answer: b

Explanation: None.

8. What is a collection of software elements treated as a unit for the purposes of SCM?

- a) Software Configuration Item
- b) Baseline
- c) Configuration
- d) Configuration Control Board

[View Answer](#)

Answer: a

Explanation: Software Configuration Item is a collection of software elements treated as a unit for the purposes of SCM.

9. What is one or more software configuration items that have been formally reviewed and agreed upon and serve as a basis for further development?

- a) Configuration
- b) Baseline
- c) Software
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Baseline – One or more software configuration items that have been formally reviewed and agreed upon and serve as a basis for further development.

10. What is validating the completeness of a product?

- a) Identification
- b) Software
- c) Auditing and Reviewing
- d) Status Accounting

[View Answer](#)

Answer: c

Explanation: Auditing and Reviewing is validating the completeness of a product and that SCM procedures are being followed.

11. What is group with the responsibility for reviewing and approving changes to baselines?

- a) Software Configuration Item
- b) Baseline
- c) Configuration
- d) Configuration Control Board

[View Answer](#)

Answer: d

Explanation: Configuration Control Board (CCB) is the group with the responsibility for reviewing and approving changes to baselines.

12. In many settings PM is a center of communication hub

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: None.

13. What is a specific instance of a baseline or configuration item?

- a) Software
- b) Configuration
- c) Version
- d) Status Accounting

[View Answer](#)

Answer: c

Explanation: Even the smallest development projects should utilize some sort of version and baseline control tool.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Quality Management”.

1. Quality Management in software engineering is also known as

- a) SQA
- b) SQM
- c) SQI
- d) SQA and SQM

[View Answer](#)

Answer: a

Explanation: Quality Management is also called software quality assurance (SQA) which serves as an umbrella activity that is applied throughout the software process.

2. Quality also can be looked at in terms of user satisfaction which includes

- a) A compliant product
- b) Good quality output
- c) Delivery within budget and schedule
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: This focuses on how well the implementation follows the design and how well the resulting system meets its requirements .

3. Inspections and testing are what kinds of Quality Costs?

- a) Prevention
- b) Internal Failure
- c) External Failure
- d) Appraisal

[View Answer](#)

Answer: d

Explanation: Inspections, equipment calibration, maintenance and testing appraisal costs is quality management.

4. According to Pareto's principle, x% of defects can be traced to y% of all causes. What are the values of x and y?

- a) 60, 40
- b) 70, 30
- c) 80, 20
- d) No such principle exists

[View Answer](#)

Answer: c

Explanation: The Pareto principle (also known as the 80–20 rule) states that, for many events, roughly 80% of the effects come from 20% of the causes.

5. What is Six Sigma?

- a) It is the most widely used strategy for statistical quality assurance
- b) The “Six Sigma” refers to six standard deviations
- c) It is the most widely used strategy for statistical quality assurance AND The “Six Sigma” refers to six standard deviations
- d) A Formal Technical Review(FTR) guideline for quality walkthrough or inspection

[View Answer](#)

Answer: c

Explanation: The Six Sigma uses data and statistical analysis to measure and improve a company's operational performance .

6. Which of the following is not a core step of Six Sigma?

- a) Define
- b) Control
- c) Measure
- d) Analyse

[View Answer](#)

Answer: b

Explanation: It is an additional step added for existing processes and can be done in parallel.

7. Non-conformance to software requirements is known as

- a) Software availability
- b) Software reliability
- c) Software failure
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Given a set of valid requirements, all software failures can be traced to design or implementation problems.

8. Software safety is equivalent to software reliability.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Software reliability uses statistical analysis to determine the likelihood that a software failure will occur; however, the failure may not necessarily result in a hazard or mishap.

9. Misinterpretation of customer communication is a sample of possible cause defects.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Translation gap between the client and the developer often leads to software defects.

10. What kind of quality cost is incurred when an error is detected in a product prior to shipment?

- a) Prevention
- b) Internal Failure
- c) External Failure
- d) Appraisal

[View Answer](#)

Answer: b

Explanation: This includes rework, repair, and failure mode analysis.

11. The degree to which the design specifications are followed during manufacturing is known as
- a) Quality of design
 - b) Quality of conformance
 - c) Quality of testing
 - d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: This focuses on how well the implementation follows the design and how well the resulting system meets its requirements.

12. Quality of design encompasses requirements and specifications of the system.

- a) True

- b) False

[View Answer](#)

Answer: a

Explanation: The characteristic that designers specify for an item are covered in quality of design.

13. According to ISO 9001, inspection and testing comes under which management responsibility?

- a) Process control

- b) Document control

- c) Control of nonconforming products

- d) Servicing

[View Answer](#)

Answer: a

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Re-engineering”.

1. What are the problems with re-structuring?

- a) Loss of comments

- b) Loss of documentation

- c) Heavy computational demands

- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Restructuring doesn't help with poor modularisation where related components are dispersed throughout the code.

2. Which of the following is not a module type?

- a) Object modules

- b) Hardware modules

- c) Functional modules

- d) Process support modules

[View Answer](#)

Answer: a

Explanation: Except option a all other are module types.

3. Reverse engineering of data focuses on

- a) Internal data structures
- b) Database structures
- c) ALL of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

4. Forward engineering is not necessary if an existing software product is producing the correct output.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Forward engineering refers to taking a high-level model and using it to build a more complex lower-level implementation.

5. Which of the following is not an example of a business process?

- a) designing a new product
- b) hiring an employee
- c) purchasing services
- d) testing software

[View Answer](#)

Answer: d

Explanation: It is a part of development phase.

6. Which of the following is a data problem?

- a) hardware problem
- b) record organisation problems
- c) heavy computational demands
- d) loss of comments

[View Answer](#)

Answer: b

Explanation: Records representing the same entity may be organised differently in different programs.

7. When does one decides to re-engineer a product?

- a) when tools to support restructuring are disabled
- b) when system crashes frequently
- c) when hardware or software support becomes obsolete
- d) subsystems of a larger system require few maintenance

[View Answer](#)

Answer: c

Explanation: Re-engineering involves putting in the effort to make the system easier to maintain.

8. Which of the following is not a business goal of re-engineering ?

- a) Cost reduction
- b) Time reduction
- c) Maintainability
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: No such goal is mentioned which is not a business goal, so option d is correct here.

9. Which of these benefits can be achieved when software is restructured?

- a) Higher quality programs
- b) Reduced maintenance effort
- c) Software easier to test
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: The answer is self explanatory.

10. Data re-engineering may be part of the process of migrating from a file-based system to a DBMS-based system or changing from one DBMS to another.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Data re-engineering involves analyzing and reorganizing the data structures in a program.

11. BPR stands for

- a) Business process re-engineering
- b) Business product re-engineering
- c) Business process requirements
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: The answer is self explanatory.

12. Source code translation is a part of which re-engineering technique?

- a) Data re-engineering
- b) Refactoring
- c) Restructuring
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Restructuring involves automatic conversion from unstructured to structured code.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Reverse Engineering”.

1. In reverse engineering process, what refers to the sophistication of the design information that can be extracted from the source code?

- a) interactivity
- b) completeness
- c) abstraction level
- d) direction level

[View Answer](#)

Answer: c

Explanation: None.

2. In reverse engineering, what refers to the level of detail that is provided at an abstraction level?

- a) interactivity
- b) completeness
- c) abstraction level
- d) directionality

[View Answer](#)

Answer: b

Explanation: None.

3. The core of reverse engineering is an activity called

- a) restructure code
- b) directionality
- c) extract abstractions
- d) interactivity

[View Answer](#)

Answer: c

Explanation: The engineer must evaluate the old program and extract a meaningful specification of the processing that is performed, the user interface that is applied, and the program data structures or database that is used.

4. What have become de rigueur for computer-based products and systems of every type?

- a) GUIs
- b) Candidate keys
- c) Object model
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Therefore, the redevelopment of user interfaces has become one of the most common types of re-engineering activity. But before a user interface can be rebuilt, reverse engineering should occur.

5. Forward engineering is also known as

- a) extract abstractions
- b) renovation
- c) reclamation
- d) both renovation and reclamation

[View Answer](#)

Answer: d

Explanation: Forward engineering, also called renovation or reclamation , not only recovers design information from existing software, but uses this information to alter or reconstitute the existing system in an effort to improve its overall quality.

6. Reverse engineering is the process of deriving the system design and specification from its
- a) GUI
 - b) Database
 - c) Source code
 - d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: None

7. Reverse engineering techniques for internal program data focus on the definition of classes of objects.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: This is accomplished by examining the program code with the intent of grouping related program variables.

8. Which of the following steps may not be used to define the existing data model as a precursor to re-engineering a new database model:

- a) Build an initial object model
- b) Determine candidate keys
- c) Refine the tentative classes
- d) Discover user interfaces

[View Answer](#)

Answer: d

Explanation: Once information defined in the preceding steps is known, a series of transformations can be applied to map the old database structure into a new database structure.

9. Much of the information necessary to create a behavioral model can be obtained by observing the external manifestation of the existing

- a) candidate keys
- b) interface
- c) database structure
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: The GUI or the interface provides the base for the behavioral model.

10. Extracting data items and objects, to get information on data flow, and to understand the existing data structures that have been implemented is sometimes called

- a) data analysis
- b) directionality

- c) data extraction
- d) client applications

[View Answer](#)

Answer: a

Explanation: None.

11. Reverse engineering and Re-engineering are equivalent processes of software engineering.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Re engineering is a process of analysis and change whereby a system is modified by first reverse engineering and then forward engineering.

12. Transformation of a system from one representational form to another is known as

- a) Re-factoring
- b) Restructuring
- c) Forward engineering
- d) Both Re-factoring and Restructuring

[View Answer](#)

Answer: d

Explanation: None.

13. Which of the following is not an objective of reverse engineering?

- a) to reduce maintenance effort
- b) to cope with complexity
- c) to avoid side effects
- d) to assist migration to a CASE environment

[View Answer](#)

Answer: d

Explanation: Reverse engineering helps us to detect side effects rather than avoiding them.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Computer Aided Software Engineering”.

1. Which of the following is software engineer’s primary characteristics?

- a) A collection of useful tools that will help in every step of building a product
- b) An organized layout that enables tools to be found quickly and used efficiently
- c) A skilled artisan who understands how to use the tools in an effective manner
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

2. Database management software serves as a foundation for the establishment of a CASE database (repository) that we call

- a) project database
- b) system database

- c) analysis and design tools
- d) prototyping tools

[View Answer](#)

Answer: a

Explanation: Given the emphasis on configuration objects, database management tools for CASE are evolving from relational database management systems to object oriented database management systems.

3. What enables a software engineer to define screen layout rapidly for interactive applications?

- a) Analysis and design tools
- b) Tool kit
- c) Screen painters
- d) PRO/SIM tools

[View Answer](#)

Answer: c

Explanation: More sophisticated CASE prototyping tools enable the creation of a data design, coupled with both screen and report layouts.

4. _____ tools assist in the planning, development, and control in CASE.

- a) Dynamic measurement
- b) Data acquisition
- c) Test management
- d) Cross-functional tools

[View Answer](#)

Answer: c

Explanation: None.

5. Which tools cross the bounds of the preceding categories?

- a) Data acquisition
- b) Dynamic measurement
- c) Cross-functional tools
- d) Simulation

[View Answer](#)

Answer: c

Explanation: None.

6. Which environment demands specialized testing tools that exercise the graphical user interface and the network communications requirements for client and server?

- a) Dynamic analysis
- b) Client/Server
- c) Re-engineering
- d) Test management

[View Answer](#)

Answer: b

Explanation: A client/server architecture is GUI based.

7. Which tools are used to modify online database systems?

- a) Reverse engineering specification tools

- b) Code restructuring and analysis tools
- c) Test management tools
- d) online system re-engineering tools

[View Answer](#)

Answer: d

Explanation: For example these tools convert IDMS or DB2 files into entity-relationship format.

8. Which is the definition of objects in the database that leads directly to a standard approach for the creation of software engineering documents.

- a) Document standardization
- b) Data integrity
- c) Information sharing
- d) Data/data integration

[View Answer](#)

Answer: a

Explanation: None.

9. Which of the following term is best defined by the statement: “CASE tools and the target applications are isolated from physical storage so they are not affected when the hardware configuration is changed.”?

- a) Non-redundant data storage
- b) Data independence
- c) Data dependence
- d) Ad Hoc data queries and reports

[View Answer](#)

Answer: b

Explanation: None.

10. Which of the following term is best define by the statement:”Each object is stored only once, but is accessible by all CASE tools that need it.”?

- a) Non-redundant data storage
- b) Data independence
- c) Transaction control
- d) Ad Hoc data queries and reports

[View Answer](#)

Answer: a

Explanation: None.

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Using CASE Tools”.

1. CASE stands for

- a) Cost Aided Software Engineering
- b) Computer Aided Software Engineering
- c) Control Aided Software Engineering
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: CASE tools purpose is to make the work of software development and maintenance easier and more reliable.

2. CASE tools are used only during the software testing phase.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: CASE tools support the developer when performing one or more phases of the software life cycle and/or support software maintenance.

3. Which of the following is not a type of CASE tool?

a) Lower

b) Classic

c) Real

d) Middle

[View Answer](#)

Answer: d

Explanation: Lower and Upper CASE tools support analysis and design.

4. What stores all changes and info related to the project from development through maintenance in CASE tools?

a) Database

b) Repository

c) Registers

d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: The main component of real CASE tools is the repository which stores all changes.

5. What kind of support is provided by the Repository Query CASE tool?

a) Editing text and diagrams

b) Display of parts of the design texts

c) Cross referencing queries and requirements tracing

d) Display of parts of the design texts AND Cross referencing queries and requirements tracing

[View Answer](#)

Answer: d

Explanation: None.

6. What kind of support is provided by the Code Generation CASE tool?

a) Cross referencing queries and requirements tracing

b) Transformation of design records into application software

c) Compiling, interpreting or applying interactive debugging code

d) Transformation of design records into application software AND Compiling, interpreting or applying interactive debugging code

[View Answer](#)

Answer: b

Explanation: Code Generation tool aids in transformation of design records into prototypes or application software compatible with a given software development language.

7. Logical design errors can be resolved using both classic and real CASE tools.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Classic CASE tools include interactive debuggers and compilers which do not serve the required purpose.

8. CASE-generated updated documentation enables easier and more reliable identification of software failure causes.

a) True

b) False

[View Answer](#)

Answer: a

Explanation: None.

9. What kind of support is provided by the Code Editing CASE tool?

a) Management of design documents and software code versions

b) Transformation of design records into application software

c) Compiling, interpreting or applying interactive debugging code

d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Code editing tool serves the purpose of compiling, interpreting or applying interactive debugging code specific coding language or development tool.

10. Use of the repository assures automated coding and documentation of corrections.

a) True

b) False

[View Answer](#)

Answer: b

Explanation: Use of the repository assures consistency of new applications and improvements with existing software systems.

11. Which of the following is a drawback of using CASE tool?

a) Standardization of notations and diagrams

b) Communication between development team member

c) Costs associated with the use of the tool

d) Reduction of time and effort

[View Answer](#)

Answer: c

Explanation: Using CASE tools is an expensive approach.

12. An upper CASE tool is also referred to as a back end CASE.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: An upper CASE tool (front end CASE) provides support for the early stages in the systems development life cycle such as requirements analysis and design.

13. CASE tools are mainly used while developing which of the following methodologies?

- a) RAD
- b) JAD
- c) OO Approach
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: CASE tools are used in various stages of the Software Development Life Cycle.

1. What are the characteristics of software?

- a. Software is developed or engineered; it is not manufactured in the classical sense.
- b. Software doesn't "wear out".
- c. Software can be custom built or custom build.
- d. All mentioned above

ANSWER: All mentioned above

2. Compilers, Editors software come under which type of software?

- a. System software
- b. Application software
- c. Scientific software
- d. None of the above.

ANSWER: System software

3. Software Engineering is defined as systematic, disciplined and quantifiable approach for the development, operation and maintenance of software.

- a. True
- b. False

ANSWER: True

4. RAD Software process model stands for _____ .

- a. Rapid Application Development.
- b. Relative Application Development.
- c. Rapid Application Design.
- d. Recent Application Development.

ANSWER: Rapid Application Development.

5. Software project management comprises of a number of activities, which contains _____.

- a. Project planning
- b. Scope management
- c. Project estimation
- d. All mentioned above

ANSWER: All mentioned above

6. COCOMO stands for _____ .

- a. COnsumed COst MOdel
- b. COnstructive COSt MOdel
- c. CCommon COntrol MOdel
- d. COMposition COSt MOdel

ANSWER: COnstructive COSt MOdel

7. Which of the following is not defined in a good Software Requirement Specification (SRS) document?

- a. Functional Requirement.
- b. Nonfunctional Requirement.
- c. Goals of implementation.
- d. Algorithm for software implementation.

ANSWER: Algorithm for software implementation.

8. What is the simplest model of software development paradigm?

- a. Spiral model
- b. Big Bang model
- c. V-model
- d. Waterfall model

ANSWER: Waterfall model

9. Which of the following is the understanding of software product limitations, learning system related problems or changes to be done in existing systems beforehand, identifying and addressing the impact of project on organization and personnel etc?

- a. Software Design
- b. Feasibility Study
- c. Requirement Gathering
- d. System Analysis

ANSWER: System Analysis

10. Which design identifies the software as a system with many components interacting with each other?

- a. Architectural design
- b. High-level design
- c. Detailed design
- d. Both B & C

ANSWER: Architectural design

11. Software consists of _____ .

- a. Set of instructions + operating procedures
- b. Programs + documentation + operating procedures
- c. Programs + hardware manuals
- d. Set of programs

ANSWER: Programs + documentation + operating procedures

12. Which is the most important feature of spiral model?

- a. Quality management
- b. Risk management
- c. Performance management
- d. Efficiency management

ANSWER: Risk management

13. If every requirement stated in the Software Requirement Specification (SRS) has only one interpretation, SRS is said to be correct _____ .

- a. Unambiguous
- b. Consistent
- c. Verifiable
- d. None of the above

ANSWER: Unambiguous

14. Which is not a step of Requirement Engineering?

- a. Requirements elicitation
- b. Requirements analysis
- c. Requirements design
- d. Requirements documentation

ANSWER: Requirements design

15. FAST stands for _____ .

- a. Functional Application Specification Technique
- b. Fast Application Specification Technique
- c. Facilitated Application Specification Technique
- d. None of the above

ANSWER: Facilitated Application Specification Technique

16. The level at which the software uses scarce resources is _____ .

- a. Reliability
- b. Efficiency
- c. Portability
- d. All of the above

ANSWER: Efficiency

17. Modifying the software to match changes in the ever changing environment is called _____ .

- a. Adaptive maintenance
- b. Corrective maintenance
- c. Perfective maintenance
- d. Preventive maintenance

ANSWER: Adaptive maintenance

18. If every requirement can be checked by a cost-effective process, then the SRS is _____ .

- a. Verifiable
- b. Traceable
- c. Modifiable
- d. Complete

ANSWER: Verifiable

19. Aggregation represents _____ .

- a. is_a relationship
- b. part_of relationship
- c. composed_of relationship
- d. none of above

ANSWER: composed_of relationship

20. If P is risk probability, L is loss, then Risk Exposure (RE) is computed as_____ .

- a. $RE = P/L$
- b. $RE = P + L$
- c. $RE = P*L$
- d. $RE = 2^* P *L$

ANSWER: $RE = P*L$

21) Number of clauses used in ISO 9001 to specify quality system requirements are _____ .

- a. 15
- b. 20
- c. 25
- d. 28

ANSWER: 20

22) ER model shows the _____ .

- a. Static view
- b. Functional view
- c. Dynamic view
- d. All the above

ANSWER: Static view

23) IEEE 830-1993 is a IEEE recommended standard for _____ .

- a. Software Requirement Specification
- b. Software design

- c. Testing
- d. Both (A) and (B)

ANSWER: Software Requirement Specification

24) One of the fault base testing techniques is _____ .

- a. Unit Testing
- b. Beta Testing
- c. Stress Testing
- d. Mutation Testing

ANSWER: Mutation Testing

25) If the objects focus on the problem domain, then we are concerned with _____.

- a. Object Oriented Analysis
- b. Object Oriented Design
- c. Object Oriented Analysis and Design
- d. None of the above

ANSWER: Object Oriented Analysis

26) In a risk-based approach the risks identified may be used to:

- i. Determine the test technique to be employed
 - ii. Determine the extent of testing to be carried out
 - iii. Prioritize testing in an attempt to find critical defects as early as possible.
 - iv. Determine the cost of the project
-
- a. ii is True; i, iii, iv and v are False
 - b. i,ii,iii are true and iv is false
 - c. ii and iii are True; i, iv are False
 - d. ii, iii and iv are True; i is false

ANSWER: i,ii,iii are true and iv is false

27) Which of the following is not a part of the Test Implementation and Execution Phase?

- a. Creating test suites from the test cases
- b. Executing test cases either manually or by using test execution tools
- c. Comparing actual results
- d. Designing the Tests

ANSWER: Designing the Tests

28) The Test Cases Derived from use cases _____ .

- a. Are most useful in uncovering defects in the process flows during real world use of the system.
- b. Are most useful in uncovering defects in the process flows during the testing use of the system.
- c. Are most useful in covering the defects in the process flows during real world use of the system.
- d. Are most useful in covering the defects at the Integration Level.

ANSWER: Are most useful in uncovering defects in the process flows during real world use of the system.

29) What can static analysis NOT find?

- a. The use of a variable before it has been defined.
- b. Unreachable ("dead") code.
- c. Memory leaks.
- d. Array bound violations.

ANSWER: Memory leaks.

30) Which plan describes how the skills and experience of the project team members will be developed ?

- a. HR Plan
- b. Manager Plan
- c. Team Plan
- d. Staff Development Plan

ANSWER: Staff Development Plan

31) Alpha and Beta Testing are forms of _____ .

- a. Acceptance testing
- b. Integration testing
- c. System Testing
- d. Unit testing

ANSWER: Acceptance testing

32) The model in which the requirements are implemented by its category is _____ .

- a. Evolutionary Development Model
- b. Waterfall Model
- c. Prototyping
- d. Iterative Enhancement Model

ANSWER: Evolutionary Development Model

33) A COCOMO model is _____ .

- a. Common Cost Estimation Model.
- b. Constructive Cost Estimation Model.
- c. Complete Cost Estimation Model.
- d. Comprehensive Cost Estimation Model

ANSWER: Constructive Cost Estimation Model.

34) SRD stands for _____ .

- a. Software Requirements Definition
- b. Structured Requirements Definition

- c. Software Requirements Diagram
- d. Structured Requirements Diagram

ANSWER: Structured Requirements Definition

35) The tools that support different stages of software development life cycle are called _____ .

- a. CASE Tools
- b. CAME tools
- c. CAQE tools
- d. CARE tools

ANSWER: CASE Tools

36) Which defect amplification model is used to illustrate the generation and detection of errors during the preliminary steps of a software engineering process?

- a. Design
- b. Detailed design
- c. Coding
- d. All mentioned above

ANSWER: All mentioned above

37) Which method is used for evaluating the expression that passes the function as an argument?

- a. Strict evaluation
- b. Recursion
- c. Calculus
- d. Pure functions

ANSWER: Strict evaluation

38) Which factors affect the probable consequences if a risk occur?

- a. Risk avoidance
- b. Risk monitoring
- c. Risk timing
- d. Contingency planning

ANSWER: Risk timing

39) Staff turnover, poor communication with the customer are risks that are extrapolated from past experience are called _____ .

- a. Business risks
- b. Predictable risks
- c. Project risks
- d. Technical risks

ANSWER: Predictable risks

40) Organization can have in-house inspection, direct involvement of users and release of beta version are few of them and it also includes usability, compatibility, user acceptance etc. is called

- a. Task analysis
- b. GUI requirement gathering
- c. GUI design & implementation
- d. Testing

ANSWER: Testing

41) Which project is undertaken as a consequence of a specific customer request?

- a. Concept development projects
- b. Application enhancement projects
- c. New application development projects
- d. Application maintenance projects

ANSWER: New application development projects

42) Requirement engineering process includes which of these steps?

- a. Feasibility study
- b. Requirement Gathering
- c. Software Requirement specification & Validation
- d. All mentioned above

ANSWER: All mentioned above

43) Software safety is a quality assurance activity that focuses on hazards that may cause an entire system to fall.

- a. True
- b. False

ANSWER: True

44) Give the disadvantages of modularization.

- a. Smaller components are easier to maintain
- b. Program can be divided based on functional aspects
- c. Desired level of abstraction can be brought in the program
- d. None of the above

ANSWER: None of the above

45) Effective software project management focuses on the four P's. What are those four P's?

- a. People, performance, payment, product
- b. People, product, process, project
- c. People, product, performance, project
- d. All of the above.

ANSWER: People, product, process, project

46) Give the Real-world factors affecting maintenance Cost.

- a. As technology advances, it becomes costly to maintain old software.
- b. The standard age of any software is considered up to 10 to 15 years.
- c. Most maintenance engineers are newbie and use trial and error method to rectify problem.
- d. All mentioned above

ANSWER: All mentioned above

47) Mention any two indirect measures of product.

- a. Quality
- b. Efficiency
- c. Accuracy
- d. Both A and B
- e. Both B and C

ANSWER: Both A and B

48) Which testing is the re-execution of some subset of tests that have already been conducted to ensure the changes that are not propagated?

- a. Unit testing
- b. Regression testing
- c. Integration testing
- d. Thread-based testing

ANSWER: Regression testing

49) State if the following are true for Project Management.

During Project Scope management, it is necessary to –

- 1) Define the scope
- 2) Decide its verification and control
- 3) Divide the project into various smaller parts for ease of management.
- 4) Verify the scope

- a. True
- b. False

ANSWER: True

50) Software Requirement Specification (SRS) is also known as specification of _____.

- a. White box testing
- b. Acceptance testing
- c. Integrated testing
- d. Black box testing

ANSWER: Black box testing

1) Which of the following is/are considered stakeholder in the software process?

- a. Customers
- b. End-users
- c. Project managers
- d. All of the above.

ANSWER: All of the above.

2) Software components provide interfaces, which can be used to establish communication among different components.

- a. Yes
- b. No

ANSWER: Yes

3) Which SDLC activity does the user initiates the request for a desired software product?

- a. Requirement gathering
- b. Implementation
- c. Disposition
- d. Communication

ANSWER: Communication

4) In Risk management process what makes a note of all possible risks, that may occur in the project?

- a. Manage
- b. Monitor
- c. Categorize
- d. Identification

ANSWER: Identification

5) What is a measure of how well a computer system facilities learning?

- a. Usability
- b. Functionality
- c. Reliability
- d. None of the above

ANSWER: Usability

6) The process togather the software requirements from Client, Analyze and Document is known as _____ .

- a. Requirement engineering process
- b. Requirement elicitation process

- c. User interface requirements
- d. Software system analyst

ANSWER: Requirement engineering process

7) Refinement is actually a process of elaboration.

- a. True
- b. False

ANSWER: True

8) Who manages the effects of change throughout the software process?

- a. Software project tracking and control
- b. Software configuration management
- c. Measurement
- d. Technical reviews

ANSWER: Software configuration management

9) When elements of module are grouped together that are executed sequentially in order to perform a task, is called _____ .

- a. Procedural cohesion
- b. Logical cohesion
- c. Emporal cohesion
- d. Co-incidental cohesion

ANSWER: Procedural cohesion

10) Which coupling is also known as “Global coupling”?

- a. Content coupling
- b. Stamp coupling
- c. Data coupling
- d. Common coupling

ANSWER: Common coupling

11) What is the detailed sequence of steps that describes the interaction between the user and the application?

- a. Scenario scripts
- b. Support classes
- c. Key classes
- d. Subsystems

ANSWER: Scenario scripts

12) Which risks identify Potential Design, Implementation, Interface, Verification and Maintenance Problems?

- a. Project risk
- b. Business risk
- c. Technical risk
- d. Schedule risk

ANSWER: Technical risk

13) Abbreviate the term BSS.

- a. Box Structure Specification
- b. Box Statistical Specification
- c. Box Statistical System
- d. Box Structure Sampling

ANSWER: Box Structure Specification

14) What is the testing to ensure the WebApp properly interfaces with other applications or databases?

- a. Compatibility
- b. Interoperability
- c. Performance
- d. Security

ANSWER: Interoperability

15) Which Variation control in the context of software engineering involves controlling variation?

- a. Process applied
- b. Resources expended
- c. Product quality attributes
- d. All mentioned above

ANSWER: All mentioned above

16) Which classes represent data stores (e.g., a database) that will persist beyond the execution of the software?

- a. Process classes
- b. System classes
- c. Persistent classes
- d. User interface classes

ANSWER: Persistent classes

17) Abbreviate the term CMMI.

- a. Capability Maturity Model Integration
- b. Capability Model Maturity Integration
- c. Capability Maturity Model Instructions
- d. Capability Model Maturity Instructions

ANSWER: Capability Maturity Model Integration

18) First level of prototype is evaluated by _____ .

- a. Developer
- b. Tester
- c. User
- d. System Analyst

ANSWER: User

19) Which of the items listed below is not one of the software engineering layers?

- a. Process
- b. Manufacturing
- c. Methods
- d. Tools

ANSWER: Manufacturing

20) Line of code(LOC) of the product comes under which type of measures?

- a. Indirect measures
- b. Direct measures
- c. Coding
- d. None of the above.

ANSWER: Direct measures

21) What is the main aim of Software engineering?

- a. Reliable software
- b. Cost effective software
- c. Reliable and cost effective software
- d. None of the above

ANSWER: Reliable and cost effective software

22) Choose the correct option according to the given statement.

Statement 1: Software is a physical rather than a logical system element.

Statement 2: Computer software is the product that software engineers design and build.

Statement 3: Software is a logical rather than a physical system element.

Statement 4: Software is a set of application programs that are built by software engineers.

- a. Statement 1 and 2 are correct.
- b. Only Statement 2 and 3 are correct.
- c. Statement 2 and 3 and 4 are correct.
- d. All statements are correct

ANSWER: Statement 2 and 3 and 4 are correct.

23) You are working in CareerRide as a project manager. What will you do to minimize the risk of software failure?

- a. Request a large budget
- b. You will increase the team size
- c. Track progress
- d. None of the above.

ANSWER: Track progress

24) Constantine suggests four “organizational paradigms” for software engineering teams. The best project team organizational model to use when handling extremely complex problems is

- a. Random paradigm
- b. Open paradigm
- c. Synchronous paradigm
- d. Closed paradigm

ANSWER: Random paradigm

25) For the best Software model suitable for the project, in which of the phase the developers decide a roadmap for project plan?

- a. Software Design
- b. System Analysis
- c. Coding
- d. Testing

ANSWER: System Analysis

1) Which of these software characteristics are used to determine the scope of a software project?

- a. Only performance.
- b. Only context.
- c. Information objectives, function, performance
- d. None of the above.

ANSWER: Information objectives, function, performance

2) Which level of sub-system is used of an application?

- a. Application level
- b. Component level
- c. Modules level
- d. None of the above

ANSWER: Component level

3) SDLC is not a well-defined, structured sequence of stages in software engineering to develop the intended software product.

- a. True
- b. False

ANSWER: False

4) In the Empirical Estimation Technique which model is developed by Barry W. Boehm?

- a. Putnam model
- b. COCOMO
- c. Both A & B
- d. None of the above

ANSWER: COCOMO

5) From the following select the correct option that is used to display the available option for selection.

- a. Check-box
- b. Text-box
- c. Button
- d. Radio-Button

ANSWER: Radio-Button

6) CMM model in Software Engineering is a technique of _____ .

- a. Develop the software.
- b. Improve the software process.
- c. Improve the testing process.
- d. All of the above.

ANSWER: Improve the software process.

7) Transformers is one of the broad category used to classify operations.

- a. True
- b. False

ANSWER: False

8) The tools that support different stages of software development life cycle are called as _____ .

- a. CASE Tools
- b. CAME tools
- c. CAQE tools
- d. CARE tools

ANSWER: CASE Tools

9) Which is not a step of Requirement Engineering?

- a. Requirements elicitation
- b. Requirements analysis
- c. Requirements design
- d. Requirements documentation

ANSWER: Requirements design

10) Which of the level carries out goal, objective, work tasks, work products and other activities of the software process?

- a. Performed
- b. INCOMPLETE
- c. Optimized
- d. Quantitatively Managed

ANSWER: Performed

11) If you have no clue of how to improve the process for the quality software which model is used?

- a. A Continuous model
- b. A Staged model
- c. Both A & B
- d. None of the above

ANSWER: A Staged model

12) In Software validation, requirements can be checked against following conditions:

- 1) If they can be practically implemented
- 2) If they are valid and as per functionality and domain of software
- 3) If there are any ambiguities
- 4) If they are completed

- a. True
- b. False

ANSWER: True

13) In OOD, the attributes(data variables) and methods(operation on the data) are bundled together is called _____ .

- a. Classes
- b. Objects
- c. Encapsulation
- d. Inheritance

ANSWER: Encapsulation

14) Which design defines the logical structure of each module and their interfaces that is used to communicate with other modules?

- a. High-level designs
- b. Architectural designs
- c. Detailed design
- d. All mentioned above

ANSWER: Detailed design

15) Which tools are used in Implementation, Testing and Maintenance?

- a. Upper case tools
- b. Lower case tools
- c. Integrated case tools
- d. None of the above

ANSWER: Lower case tools

16) Which tools are used for project planning, cost, effort estimation, project scheduling and resource planning?

- a. Process modeling tools
- b. Project management tools
- c. Diagram tools
- d. Documentation tools

ANSWER: Project management tools

17) Which design deals with the implementation part in which it shows a system and its subsystems in the previous two designs?

- a. Architectural design
- b. High-level design
- c. Detailed design
- d. Both A & B

ANSWER: Detailed design

18) Modularization is a technique to divide a software system into multiple discrete and independent modules.

- a. True
- b. False

ANSWER: True

19) What is the project and process level that provides the Quality Metric benefit?

- a. Defect amplification
- b. Defect removal efficiency
- c. Measuring quality
- d. All mentioned above

ANSWER: Defect removal efficiency

20) Cohesion metrics and coupling metrics are metrics in which level of design?

- a. User interface design
- b. Pattern-based design
- c. Architectural design
- d. Component-level design

ANSWER: Component-level design

21) Which condition defines the circumstances for a particular operation is valid?

- a. Postcondition
- b. Precondition
- c. Invariant
- d. None of the above

ANSWER: Precondition

22) Which subsystem implements a repository that encompasses the following elements,

- 1) Content database**
- 2) Database capabilities**
- 3) Configuration management functions**

- a. The publishing subsystem
- b. The management subsystem
- c. The collection subsystem
- d. None of the above

ANSWER: The management subsystem

23) Which is not a SQA activity?

- a. Black box testing
- b. White box testing
- c. Integration testing
- d. Unit testing

ANSWER: White box testing

24) PAD is metric indicates the number of classes that can access another class attributes and a violation of encapsulation.

- a. True
- b. False

ANSWER: True

25) Find out which phase is not available in SDLC?

- a. Coding
- b. Testing

- c. Maintenance
- d. Abstraction

ANSWER: Abstraction

1) From the following, which software has been characterized by 'Number Crunching' Algorithms?

- a. System software
- b. Artificial intelligence software
- c. Embedded software
- d. Engineering and scientific software

ANSWER: Engineering and scientific software

2) IEEE provides a standard as IEEE 830-1993. For which activity this standard is recommended standard?

- a. Software requirement specification.
- b. Software design.
- c. Testing.
- d. Both a and b

ANSWER: Software requirement specification.

3) A generic process framework for software engineering encompasses five activities. What are those activities?

- a. Communication, risk management, measurement, production, deployment.
- b. Communication, Planning, Modeling, construction, deployment.
- c. Analysis, designing, programming, debugging, maintenance
- d. None of the above.

ANSWER: Communication, Planning, Modeling, construction, deployment.

4) Who deliver the technical skills that are necessary to engineer for a product or an application?

- a. Project managers
- b. Practitioners
- c. Customers
- d. End users

ANSWER: Practitioners

5) Project risk factor is considered in which model?

- a. Spiral model.
- b. Waterfall model.
- c. Prototyping model
- d. None of the above.

ANSWER: Spiral model.

6) What is a child window that contains message for the user and request for some action to be taken?

- a. Dialogue box
- b. Text-Box
- c. Check-Box
- d. Radio Button

ANSWER: Dialogue box

7) A Project can be characterized as _____ .

- a. Every project may not have a unique and distinct goal.
- b. Project is routine activity or day-to-day operations.
- c. Project does not comes with a start time and end time.
- d. All mentioned above.
- e. None of the above.

ANSWER: None of the above.

8) Which model is not suitable for large software projects but good one for learning and experimenting?

- a. Big Bang model
- b. Spiral model
- c. Iterative model
- d. Waterfall model

ANSWER: Big Bang model

9) Which includes modifications and updations done in order to correct or fix the problems, that are either discovered by user or concluded by user error reports?

- a. Perfective maintenance
- b. Adaptive maintenance
- c. Corrective maintenance
- d. Preventive maintenance

ANSWER: Corrective maintenance

10) Boehm suggests an approach that addresses project objectives, milestones and schedules, responsibilities, management and technical approaches and required resources, This principle is called as _____ .

- a. W3HH principle
- b. WHO principle
- c. W5HH principle
- d. None of the above.

ANSWER: W5HH principle

11) The objective for formal technical review is to core errors in software work products.

- a. True
- b. False

ANSWER: False

12) CASE tools are set of automated software application programs, that are not used to support, accelerate and smoothen the SDLC activities.

- a. Yes
- b. No

ANSWER: No

13) From the following give three major categories of risk,

- 1) Schedule risk
- 2) Project risk
- 3) Technical risk
- 4) Business risk

- a. 1,2 and 3
- b. 2,3 and 4
- c. 1,2 and 4
- d. 1,3 and 4

ANSWER: 2,3 and 4

14) Activities and action taken on the data are represented by circle or round-edged rectangles is called _____ .

- a. Entities
- b. Process
- c. Data storage
- d. Data flow

ANSWER: Process

15) The six sigma for software engineering what gives the existing process and its output to determine the current quality performance?

- a. Define
- b. Analyze
- c. Measure
- d. None of the above

ANSWER: Measure

16) Which tools are helpful in all the stages of SDLC, for requirement gathering to testing and documentation?

- a. Upper case tools
- b. Lower case tools
- c. Integrated case tools
- d. None of the above

ANSWER: Integrated case tools

17) OOD languages provide a mechanism where methods performing similar tasks but vary in arguments, and that can be assigned to the same name is called _____ .

- a. Classes
- b. Object
- c. Polymorphism
- d. Encapsulation

ANSWER: Polymorphism

18) Abbreviate the term SMI.

- a. Software Maturity Index
- b. Software Model Instruction
- c. Software Maturity Instruction
- d. Software Model Index

ANSWER: Software Maturity Index

19) What computer-based system can have a profound effect on the design that is chosen and also the implementation approach will be applied?

- a. Scenario-based elements
- b. Class-based elements
- c. Behavioural elements
- d. Flow-oriented elements

ANSWER: Behavioural elements

20) SRS is a document created by system analyst after the requirements are collected from various stakeholders.

- a. Yes
- b. No

ANSWER: Yes

21) Which structures in Organizational Paradigms on a team loosely and depends on individual initiative of the team members?

- a. Closed paradigm
- b. Open paradigm
- c. Random paradigm
- d. Synchronous paradigm

ANSWER: Random paradigm

22) Give the name to diagram that represents the flow of activities described by the use cases and at the same time the captors are involved in UML .

- a. State diagram
- b. Swim lane diagram
- c. Activity diagram
- d. Component diagram

ANSWER: Swim lane diagram

23) Which phase is refers to the support phase of software development?

- a. Acceptance Phase.
- b. Testing.
- c. Maintenance.
- d. None of the above.

ANSWER: Maintenance.

24) Which model is also called as the classic life cycle or the Waterfall model?

- a. Iterative Development
- b. Linear Sequential Development
- c. RAD Model.
- d. Incremental Development

ANSWER: Linear Sequential Development

25) What is the average effective global activity rate in an evolving E-type system is invariant over the lifetime of the product?

- a. Self-regulation
- b. Reducing quality
- c. Feedback systems
- d. Organizational stability

ANSWER: Organizational stability

1) Which document is created by system analyst after the requirements are collected from Various stakeholders?

- a. Software requirement specification
- b. Software requirement validation
- c. Feasibility study
- d. Requirement Gathering

ANSWER: Software requirement specification

2) Which is focused towards the goal of the organization?

- a. Feasibility study
- b. Requirement gathering
- c. Software requirement specification
- d. Software requirement validation

ANSWER: Feasibility study

3) The architectural model is derived from which of these sources?

- A) Information about the application domain for the software to be built;
 - B) Specific requirements model elements such as data flow diagrams or analysis classes, their relationships and collaborations for the problem at hand;
 - C) The availability of architectural styles and patterns.
- a. Both A & B
 - b. Both B & C
 - c. Both A & C
 - d. All mentioned above

ANSWER: All mentioned above

4) What is the correctness, completeness, and consistency of the requirements model will have a strong influence on the quality of all work products that follow?

- a. Requirement quality
- b. Design quality
- c. Code quality
- d. Quality control effectiveness

ANSWER: Requirement quality

5) An entity in ER Model is a real world being, which has some properties called_____ .

- a. Attributes
- b. Relationship
- c. Domain
- d. None of the above

ANSWER: Attributes

6) Waht is the most common measure for correctness?

- a. Defects per KLOC
- b. Errors per KLOC
- c. \$ per KLOC
- d. Pages of documentation per KLOC

ANSWER: Defects per KLOC

7) Which documentation works as a key tool for software designer, developer and their test team is to carry out their respective tasks?

- a. Requirement documentation
- b. User documentation
- c. Software design documentation
- d. Technical documentation

ANSWER: Requirement documentation

8) Which tools are used in implementation, testing and maintenance?

- a. Upper case tools
- b. Integrated case tools
- c. Lower case tools
- d. None of the above

ANSWER: Lower case tools

9) Which risk gives the degree of uncertainty and the project schedule will be maintained so that the product will be delivered in time?

- a. Business risk
- b. Technical risk
- c. Schedule risk
- d. Project risk

ANSWER: Schedule risk

10) You are working in CareerRide as a project manager. Company wants to develop a project. You are also involved in planning team. What will be your first step in project planning?

- a. Establish the objectives and scope of the product.
- b. Determine the project constraints.
- c. Select the team.
- d. None of the above.

ANSWER: Establish the objectives and scope of the product.

11) Configuration management is an essential part of the system maintenance. It is aided with version control tools to control versions, semi-version or patch management.

- a. True
- b. False

ANSWER: True

12) Which model is also known as Verification and validation model?

- a. Waterfall model
- b. Big Bang model
- c. V-model
- d. Spiral model

ANSWER: V-model

13) Software project management is the process of managing all activities that are involved in software development, they are _____ .

- a. Time
- b. Cost
- c. Quality management
- d. All mentioned above

ANSWER: All mentioned above

14) A small picture representing an associated application, what does it mean?

- a. Icon
- b. Window
- c. Menu
- d. Cursor

ANSWER: Icon

15) What is the meaning of requirement elicitation in software engineering?

- a. Gathering of requirement.
- b. Understanding of requirement.
- c. Getting the requirements from client.
- d. All of the above.

ANSWER: All of the above.

16) Which of the following is/are Project Estimation Technique?

- a. Empirical Estimation Technique.
- b. Heuristic Estimation Technique.
- c. Analytical Estimation Technique.
- d. All of the above.

ANSWER: All of the above.

17) The maximum number of objects that can participate in a relationship is called_____ .

- a. Cardinality
- b. Attributes
- c. Operations
- d. Transformers

ANSWER: Cardinality

18) What is legacy system?

- a. A legacy system refers to newer version of software.
- b. A legacy system refers to outdated application software that is used instead of available upgraded versions.
- c. A legacy system always devolved by advance technology.
- d. None of the above.

ANSWER: A legacy system refers to outdated application software that is used instead of available upgraded versions.

19) Which of the following cannot be applied with the software according to Software Engineering Layers?

- a. Process
- b. Methods
- c. Manufacturing
- d. None of the above.

ANSWER: Manufacturing

20) Which software is used to control products and systems for the consumer and industrial markets?

- a. System software
- b. Artificial intelligence software
- c. Embedded software
- d. Engineering and scientific software

ANSWER: Embedded software

21) Which software enables the program to adequately manipulate information?

- a. Instructions
- b. Data Structures
- c. Documents
- d. All of the above

ANSWER: Data Structures

22) Which coding element is generally omitted at the end of line?

- a. Naming conventions
- b. Identifying
- c. Whitespace
- d. Operators

ANSWER: Whitespace

23) The rules of writing ‘if-then-else’, ‘case-switch’, ‘while-until’ and ‘for’ control flow statements are called _____ .

- a. Comments
- b. Functions
- c. Line length and wrapping
- d. Control Structure

ANSWER: Control Structure

24) If an application allows executing multiple instances of itself, they appear on the screen as separate windows are called _____ .

- a. Window
- b. Tabs
- c. Menu
- d. Cursor

ANSWER: Tabs

25) Match the List 1 to List 2 and choose the correct option.

- | | |
|----------------------------------|--|
| 1. Requirement Elicitation ----- | a. Module Development and integration. |
| 2. Design----- | b. Analysis |
| 3. Implementation----- | c. Structure and behavioral |
| 4. Maintenance ----- | d. Performance tuning. |

- a. 1-c , 2-a , 3-d , 4-b
- b. 1-c , 2-a , 3-b , 4-d
- c. 1-a , 2-c , 3-d , 4-b
- d. 1-b , 2-c , 3-a , 4-d

ANSWER: 1-b , 2-c , 3-a , 4-d

301) Which one of these belongs to integration testing in the OO context?

- a. Unit testing
- b. Regression testing
- c. Sandwich testing
- d. Thread-based testing

ANSWER: Thread-based testing

302) In which elicitation process the developers discuss with the client and end users and know their expectations from the software?

- a. Requirement gathering
- b. Organizing requirements
- c. Negotiation & discussion
- d. Documentation

ANSWER: Requirement gathering

303) If requirements are easily understandable and defined then which model is best suited?

- a. Spiral model
- b. Waterfall model
- c. Prototyping model
- d. None of the above

ANSWER: Waterfall model

304) Which Software-end factors affecting maintenance Cost?

- a. Structure of Software Program
- b. Programming Language
- c. Dependence on external environment
- d. All mentioned above
- e. None of the above

ANSWER: All mentioned above

305) Software quality assurance is an umbrella activity.

- a. True
- b. False

ANSWER: True

306) Software process and improvement are assessed by ____.

- a. ISO 9000
- b. ISO 9001
- c. SPICE (ISO/IEC15504)
- d. Both B and C

ANSWER: Both B and C

307) CASE Tool stands for.

- a. Computer Aided Software Engineering
- b. Component Aided Software Engineering
- c. Constructive Aided Software Engineering
- d. Computer Analysis Software Engineering

ANSWER: Computer Aided Software Engineering

308) Software is defined as ____ .

- a. Instructions
- b. Data Structures
- c. Documents
- d. All of the above

ANSWER: All of the above

309) During security testing the tester plays the role of the individual who desires to_____ .

- a. Penetrates the system
- b. Penetrates the listener
- c. Both A & B
- d. None of the above

ANSWER: Penetrates the system

310) Which of the following is not a section in the standard for SQA plans recommended by IEEE?

- a. Budget
- b. Time
- c. People
- d. None of the above

ANSWER: Budget

311) Which box specifies the behavior of a system or a part of a system?

- a. State box
- b. Clear box
- c. Black box
- d. None of the above

ANSWER: Black box

312) FAST stands for _____.

- a. Facilitated Application Software Technique.
- b. Functional Application Software Technique.
- c. Facilitated Application Specification Technique.
- d. None of the above.

ANSWER: Facilitated Application Specification Technique.

313) Which may be estimated either in terms of KLOC (Kilo Line of Code) or by calculating number of function points in the software?

- a. Time estimation
- b. Effort estimation
- c. Cost estimation
- d. Software size estimation

ANSWER: Software size estimation

314) SDLC Models are adopted as per requirements of development process. It may vary Software-to-software to ensuring which model is suitable.

- a. True
- b. False

ANSWER: True

315) The always growing and adapting nature of software hugely depends upon the environment in which user works in _____.

- a. Cost
- b. Dynamic Nature
- c. Quality Management
- d. Scalability

ANSWER: Dynamic Nature

316) When the customer may ask for new features or functions in the software, what does it mean in Software maintenance?

- a. Host modifications
- b. Client requirements
- c. Market conditions
- d. Organization changes

ANSWER: Client requirements

317) Reliability is measured by considering processing speed, response time, resource consumption, throughput, and efficiency.

- a. True
- b. False

ANSWER: False

318) Abbreviate the term CASE.

- a. Computer Authorized Software Engineering
- b. Computer Aided Software Engineering
- c. Common Authorized Software Engineering
- d. Common Aided Software Engineering

ANSWER: Computer Aided Software Engineering

319) What is described by means of DFDs as studied earlier and represented in algebraic form?

- a. Data flow
- b. Data storage
- c. Data Structures
- d. Data elements

ANSWER: Data flow

320) Which metrics are derived by normalizing quality and/or productivity measures by considering the size of the software that has been produced?

- a. Size oriented
- b. Function-Oriented
- c. Object-Oriented
- d. Use-case-Oriented

ANSWER: Size oriented

321) What are the signs that a software project is in trouble?

- a. The product scope is poorly defined.
- b. Deadlines are unrealistic.

- c. Changes are managed poorly.
- d. All of the above.

ANSWER: All of the above.

322) Application that generate a dialogue to get confirmation from user and to delete a file it is an example for _____ .

- a. Radio-Button
- b. Text-box
- c. Check-box
- d. Dialogue box

ANSWER: Dialogue box

323) What is used for implementing the changes in existing or new requirements of user in software maintenance?

- a. Preventive maintenance
- b. Perfective maintenance
- c. Corrective
- d. Adaptive

ANSWER: Perfective maintenance

324) Lehman has given eight laws for software evolution and he divided software into three categories. In which category software works strictly according to defined specifications and solutions.

- a. Static-type
- b. Embedded-type
- c. Practical-type
- d. None of the above

ANSWER: Embedded-type

325) Computer software is a complete package, which includes software program, its documentation and user guide on how to use the software.

- a. True
- b. False

ANSWER: True

- 1) What are the characteristics of software?**
- a. Software is developed or engineered; it is not manufactured in the classical sense.
 - b. Software doesn't "wear out".
 - c. Software can be custom built or custom build.
 - d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 2) Compilers, Editors software come under which type of software?** a. System software
b. Application software
c. Scientific software
d. None of the above.

Answer [Explanation](#)

ANSWER: System software

Explanation:

No explanation is available for this question!

- 3) Software Engineering is defined as systematic, disciplined and quantifiable approach for the development, operation and maintenance of software.** a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 4) RAD Software process model stands for _____.** a. Rapid Application Development.
b. Relative Application Development.
c. Rapid Application Design.
d. Recent Application Development.

Answer [Explanation](#)

ANSWER: Rapid Application Development.

Explanation:

No explanation is available for this question!

- 5) Software project management comprises of a number of activities, which contains _____.** a. Project planning
b. Scope management
c. Project estimation
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 6) COCOMO stands for _____ .**
- a. COnsumed COst MOdel
 - b. COnstructive COst MOdel
 - c. CCommon COntrol MOdel
 - d. COmposition COst MOdel

Answer [Explanation](#)

ANSWER: COnstructive COst MOdel

Explanation:

No explanation is available for this question!

- 7) Which of the following is not defined in a good Software Requirement Specification (SRS) document?**
- a. Functional Requirement.
 - b. Nonfunctional Requirement.
 - c. Goals of implementation.
 - d. Algorithm for software implementation.

Answer [Explanation](#)

ANSWER: Algorithm for software implementation.

Explanation:

No explanation is available for this question!

- 8) What is the simplest model of software development paradigm?**
- a. Spiral model
 - b. Big Bang model
 - c. V-model
 - d. Waterfall model

Answer [Explanation](#)

ANSWER: Waterfall model

Explanation:

No explanation is available for this question!

- 9) Which of the following is the understanding of software product limitations, learning system related problems or changes to be done in existing systems beforehand, identifying and addressing the impact of project on organization and personnel etc?**
- a. Software Design
 - b. Feasibility Study
 - c. Requirement Gathering
 - d. System Analysis

Answer [Explanation](#)

ANSWER: System Analysis

Explanation:

No explanation is available for this question!

- 10) Which design identifies the software as a system with many components interacting with each other?**
- a. Architectural design
 - b. High-level design
 - c. Detailed design
 - d. Both B & C

Answer [Explanation](#)

ANSWER: Architectural design

Explanation:

No explanation is available for this question!

11) Which defect amplification model is used to illustrate the generation and detection of errors during the preliminary steps of a software engineering process? a. Design

- b. Detailed design
- c. Coding
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

12) Which method is used for evaluating the expression that passes the function as an argument? a. Strict evaluation

- b. Recursion
- c. Calculus
- d. Pure functions

Answer [Explanation](#)

ANSWER: Strict evaluation

Explanation:

No explanation is available for this question!

13) Which factors affect the probable consequences if a risk occur? a. Risk avoidance

- b. Risk monitoring
- c. Risk timing
- d. Contingency planning

Answer [Explanation](#)

ANSWER: Risk timing

Explanation:

No explanation is available for this question!

14) Staff turnover, poor communication with the customer are risks that are extrapolated from past experience are called _____. a. Business risks

- b. Predictable risks
- c. Project risks
- d. Technical risks

Answer [Explanation](#)

ANSWER: Predictable risks

Explanation:

No explanation is available for this question!

15) Organization can have in-house inspection, direct involvement of users and release of beta version are few of them and it also includes usability, compatibility, user acceptance etc. is called _____.

- a. Task analysis
- b. GUI requirement gathering
- c. GUI design & implementation
- d. Testing

Answer [Explanation](#)

ANSWER: Testing

Explanation:

No explanation is available for this question!

16) Which project is undertaken as a consequence of a specific customer request? a. Concept development projects

- b. Application enhancement projects
- c. New application development projects
- d. Application maintenance projects

Answer [Explanation](#)

ANSWER: New application development projects

Explanation:

No explanation is available for this question!

17) Requirement engineering process includes which of these steps? a. Feasibility study

- b. Requirement Gathering
- c. Software Requirement specification & Validation
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

18) Software safety is a quality assurance activity that focuses on hazards that may cause an entire system to fail. a. True

- b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 19) Give the disadvantages of modularization.** a. Smaller components are easier to maintain
b. Program can be divided based on functional aspects
c. Desired level of abstraction can be brought in the program
d. None of the above

Answer [Explanation](#)

ANSWER: None of the above

Explanation:

No explanation is available for this question!

- 20) Effective software project management focuses on the four P's. What are those four P's?** a. People, performance, payment, product
b. People, product, process, project
c. People, product, performance, project
d. All of the above.

Answer [Explanation](#)

ANSWER: People, product, process, project

Explanation:

No explanation is available for this question!

- 21) Give the Real-world factors affecting maintenance Cost.** a. As technology advances, it becomes costly to maintain old software.
b. The standard age of any software is considered up to 10 to 15 years.
c. Most maintenance engineers are newbie and use trial and error method to rectify problem.
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 22) Mention any two indirect measures of product.** a. Quality
b. Efficiency
c. Accuracy
d. Both A and B
e. Both B and C

Answer [Explanation](#)

ANSWER: Both A and B

Explanation:

No explanation is available for this question!

- 23) Which testing is the re-execution of some subset of tests that have already been conducted to ensure the changes that are not propagated?** a. Unit testing
b. Regression testing
c. Integration testing
d. Thread-based testing

Answer [Explanation](#)

ANSWER: Regression testing

Explanation:

No explanation is available for this question!

24) State if the following are true for Project Management.

During Project Scope management, it is necessary to -

- 1) Define the scope
- 2) Decide its verification and control
- 3) Divide the project into various smaller parts for ease of management.
- 4) Verify the scope

- a. True
- b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

25) Software Requirement Specification (SRS) is also known as specification of _____.

- a. White box testing
- b. Acceptance testing
- c. Integrated testing
- d. Black box testing

ANSWER: Black box testing

- 1) Which one of these belongs to integration testing in the OO context? a. Unit testing
- b. Regression testing
- c. Sandwich testing
- d. Thread-based testing

Answer [Explanation](#)

ANSWER: Thread-based testing

Explanation:

No explanation is available for this question!

-
- 2) In which elicitation process the developers discuss with the client and end users and know their expectations from the software?**
- a. Requirement gathering
 - b. Organizing requirements
 - c. Negotiation & discussion
 - d. Documentation

Answer [Explanation](#)

ANSWER: Requirement gathering

Explanation:

No explanation is available for this question!

- 3) If requirements are easily understandable and defined then which model is best suited? a. Spiral model
b. Waterfall model
c. Prototyping model
d. None of the above

Answer [Explanation](#)

ANSWER: Waterfall model

Explanation:

No explanation is available for this question!

- 4) Which Software-end factors affecting maintenance Cost? a. Structure of Software Program
b. Programming Language
c. Dependence on external environment
d. All mentioned above
e. None of the above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 5) Software quality assurance is an umbrella activity. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 6) Software process and improvement are assessed by _____. a. ISO 9000
b. ISO 9001
c. SPICE (ISO/IEC15504)
d. Both B and C

Answer [Explanation](#)

ANSWER: Both B and C

Explanation:

No explanation is available for this question!

- 7) CASE Tool stands for.
- a. Computer Aided Software Engineering
 - b. Component Aided Software Engineering
 - c. Constructive Aided Software Engineering
 - d. Computer Analysis Software Engineering

Answer [Explanation](#)

ANSWER: Computer Aided Software Engineering

Explanation:

No explanation is available for this question!

- 8) Software is defined as ____ .
- a. Instructions
 - b. Data Structures
 - c. Documents
 - d. All of the above

Answer [Explanation](#)

ANSWER: All of the above

Explanation:

No explanation is available for this question!

- 9) During security testing the tester plays the role of the individual who desires to ____ .
- a. Penetrates the system
 - b. Penetrates the listener
 - c. Both A & B
 - d. None of the above

Answer [Explanation](#)

ANSWER: Penetrates the system

Explanation:

No explanation is available for this question!

- 10) Which of the following is not a section in the standard for SQA plans recommended by IEEE?
- a. Budget
 - b. Time
 - c. People
 - d. None of the above

Answer [Explanation](#)

ANSWER: Budget

Explanation:

No explanation is available for this question!

- 11) Which box specifies the behavior of a system or a part of a system?
- a. State box
 - b. Clear box
 - c. Black box
 - d. None of the above

Answer [Explanation](#)

ANSWER: Black box**Explanation:**

No explanation is available for this question!

- 12) FAST stands for _____.
a. Facilitated Application Software Technique.
b. Functional Application Software Technique.
c. Facilitated Application Specification Technique.
d. None of the above.

Answer [Explanation](#)

ANSWER: Facilitated Application Specification Technique.**Explanation:**

No explanation is available for this question!

- 13) Which may be estimated either in terms of KLOC (Kilo Line of Code) or by calculating number of function points in the software?
a. Time estimation
b. Effort estimation
c. Cost estimation
d. Software size estimation

Answer [Explanation](#)

ANSWER: Software size estimation**Explanation:**

No explanation is available for this question!

- 14) SDLC Models are adopted as per requirements of development process. It may vary Software-to-software to ensuring which model is suitable.
a. True
b. False

Answer [Explanation](#)

ANSWER: True**Explanation:**

No explanation is available for this question!

- 15) The always growing and adapting nature of software hugely depends upon the environment in which user works in _____.
a. Cost
b. Dynamic Nature
c. Quality Management
d. Scalability

Answer [Explanation](#)

ANSWER: Dynamic Nature**Explanation:**

No explanation is available for this question!

- 16) When the customer may ask for new features or functions in the software, what does it mean in Software maintenance? a. Host modifications
b. Client requirements
c. Market conditions
d. Organization changes

Answer [Explanation](#)

ANSWER: Client requirements

Explanation:

No explanation is available for this question!

-
- 17) Reliability is measured by considering processing speed, response time, resource consumption, throughput, and efficiency.

- a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

-
- 18) Abbreviate the term CASE. a. Computer Authorized Software Engineering
b. Computer Aided Software Engineering
c. Common Authorized Software Engineering
d. Common Aided Software Engineering

Answer [Explanation](#)

ANSWER: Computer Aided Software Engineering

Explanation:

No explanation is available for this question!

-
- 19) What is described by means of DFDs as studied earlier and represented in algebraic form? a. Data flow
b. Data storage
c. Data Structures
d. Data elements

Answer [Explanation](#)

ANSWER: Data flow

Explanation:

No explanation is available for this question!

-
- 20) Which metrics are derived by normalizing quality and/or productivity measures by considering the size of the software that has been produced? a. Size oriented
b. Function-Oriented
c. Object-Oriented
d. Use-case-Oriented

Answer [Explanation](#)

ANSWER: Size oriented

Explanation:

No explanation is available for this question!

21) What are the signs that a software project is in trouble? a. The product scope is poorly defined.

- b. Deadlines are unrealistic.
- c. Changes are managed poorly.
- d. All of the above.

Answer [Explanation](#)

ANSWER: All of the above.

Explanation:

No explanation is available for this question!

22) Application that generate a dialogue to get confirmation from user and to delete a file it is an example for _____. a. Radio-Button

- b. Text-box
- c. Check-box
- d. Dialogue box

Answer [Explanation](#)

ANSWER: Dialogue box

Explanation:

No explanation is available for this question!

23) What is used for implementing the changes in existing or new requirements of user in software maintenance? a. Preventive maintenance

- b. Perfective maintenance
- c. Corrective
- d. Adaptive

Answer [Explanation](#)

ANSWER: Perfective maintenance

Explanation:

No explanation is available for this question!

24) Lehman has given eight laws for software evolution and he divided software into three categories. In which category software works strictly according to defined specifications and solutions.

- a. Static-type
- b. Embedded-type
- c. Practical-type
- d. None of the above

Answer [Explanation](#)

ANSWER: Embedded-type

Explanation:

No explanation is available for this question!

- 25) Computer software is a complete package, which includes software program, its documentation and user guide on how to use the software. a. True
b. False

Answer [Explanation](#)

ANSWER: True

- 1) Which document is created by system analyst after the requirements are collected from Various stakeholders? a. Software requirement specification
b. Software requirement validation
c. Feasibility study
d. Requirement Gathering

Answer [Explanation](#)

ANSWER: Software requirement specification

Explanation:

No explanation is available for this question!

- 2) Which is focused towards the goal of the organization? a. Feasibility study
b. Requirement gathering
c. Software requirement specification
d. Software requirement validation

Answer [Explanation](#)

ANSWER: Feasibility study

Explanation:

No explanation is available for this question!

- 3) The architectural model is derived from which of these sources?
A) Information about the application domain for the software to be built;
B) Specific requirements model elements such as data flow diagrams or analysis classes, their relationships and collaborations for the problem at hand;
C) The availability of architectural styles and patterns.
a. Both A & B
b. Both B & C
c. Both A & C
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 4) What is the correctness, completeness, and consistency of the requirements model will have a strong influence on the quality of all work products that follow? a. Requirement quality
b. Design quality
c. Code quality
d. Quality control effectiveness

Answer [Explanation](#)

ANSWER: Requirement quality

Explanation:

No explanation is available for this question!

-
- 5) An entity in ER Model is a real world being, which has some properties called _____.
a. Attributes
b. Relationship
c. Domain
d. None of the above

Answer [Explanation](#)

ANSWER: Attributes

Explanation:

No explanation is available for this question!

-
- 6) What is the most common measure for correctness? a. Defects per KLOC
b. Errors per KLOC
c. \$ per KLOC
d. Pages of documentation per KLOC

Answer [Explanation](#)

ANSWER: Defects per KLOC

Explanation:

No explanation is available for this question!

-
- 7) Which documentation works as a key tool for software designer, developer and their test team is to carry out their respective tasks? a. Requirement documentation
b. User documentation
c. Software design documentation
d. Technical documentation

Answer [Explanation](#)

ANSWER: Requirement documentation

Explanation:

No explanation is available for this question!

-
- 8) Which tools are used in implementation, testing and maintenance? a. Upper case tools
b. Integrated case tools
c. Lower case tools
d. None of the above

Answer [Explanation](#)

ANSWER: Lower case tools

Explanation:

No explanation is available for this question!

9) Which risk gives the degree of uncertainty and the project schedule will be maintained so that the product will be delivered in time? a. Business risk

- b. Technical risk
- c. Schedule risk
- d. Project risk

Answer [Explanation](#)

ANSWER: Schedule risk

Explanation:

No explanation is available for this question!

10) You are working in CareerRide as a project manager. Company wants to develop a project. You are also involved in planning team. What will be your first step in project planning? a. Establish the objectives and scope of the product.

- b. Determine the project constraints.
- c. Select the team.
- d. None of the above.

Answer [Explanation](#)

ANSWER: Establish the objectives and scope of the product.

Explanation:

No explanation is available for this question!

11) Configuration management is an essential part of the system maintenance. It is aided with version control tools to control versions, semi-version or patch management. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

12) Which model is also known as Verification and validation model? a. Waterfall model
b. Big Bang model
c. V-model
d. Spiral model

Answer [Explanation](#)

ANSWER: V-model

Explanation:

No explanation is available for this question!

- 13) Software project management is the process of managing all activities that are involved in software development, they are _____.
a. Time
b. Cost
c. Quality management
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 14) A small picture representing an associated application, what does it mean?
a. Icon
b. Window
c. Menu
d. Cursor

Answer [Explanation](#)

ANSWER: Icon

Explanation:

No explanation is available for this question!

- 15) What is the meaning of requirement elicitation in software engineering?
a. Gathering of requirement.
b. Understanding of requirement.
c. Getting the requirements from client.
d. All of the above.

Answer [Explanation](#)

ANSWER: All of the above.

Explanation:

No explanation is available for this question!

- 16) Which of the following is/are Project Estimation Technique?
a. Empirical Estimation Technique.
b. Heuristic Estimation Technique.
c. Analytical Estimation Technique.
d. All of the above.

Answer [Explanation](#)

ANSWER: All of the above.

Explanation:

No explanation is available for this question!

- 17) The maximum number of objects that can participate in a relationship is called _____
- . a. Cardinality
 - b. Attributes
 - c. Operations
 - d. Transformers

Answer [Explanation](#)

ANSWER: Cardinality

Explanation:

No explanation is available for this question!

- 18) What is legacy system? a. A legacy system refers to newer version of software.
b. A legacy system refers to outdated application software that is used instead of available upgraded versions.
c. A legacy system always devolved by advance technology.
d. None of the above.

Answer [Explanation](#)

ANSWER: A legacy system refers to outdated application software that is used instead of available upgraded versions.

Explanation:

No explanation is available for this question!

- 19) Which of the following cannot be applied with the software according to Software Engineering Layers?
- a. Process
 - b. Methods
 - c. Manufacturing
 - d. None of the above.

Answer [Explanation](#)

ANSWER: Manufacturing

Explanation:

No explanation is available for this question!

- 20) Which software is used to control products and systems for the consumer and industrial markets? a. System software
b. Artificial intelligence software
c. Embedded software
d. Engineering and scientific software

Answer [Explanation](#)

ANSWER: Embedded software

Explanation:

No explanation is available for this question!

- 21) Which software enables the program to adequately manipulate information? a. Instructions
b. Data Structures

- c. Documents
- d. All of the above

Answer [Explanation](#)

ANSWER: Data Structures

Explanation:

No explanation is available for this question!

- 22) Which coding element is generally omitted at the end of line? a. Naming conventions
b. Identifying
c. Whitespace
d. Operators

Answer [Explanation](#)

ANSWER: Whitespace

Explanation:

No explanation is available for this question!

- 23) The rules of writing 'if-then-else', 'case-switch', 'while-until' and 'for' control flow statements are called _____. a. Comments
b. Functions
c. Line length and wrapping
d. Control Structure

Answer [Explanation](#)

ANSWER: Control Structure

Explanation:

No explanation is available for this question!

- 24) If an application allows executing multiple instances of itself, they appear on the screen as separate windows are called _____. a. Window
b. Tabs
c. Menu
d. Cursor

Answer [Explanation](#)

ANSWER: Tabs

Explanation:

No explanation is available for this question!

- 25) Match the List 1 to List 2 and choose the correct option.
- | | |
|----------------------------------|--|
| 1. Requirement Elicitation ----- | a. Module Development and integration. |
| 2. Design----- | b. Analysis |
| 3. Implementation----- | c. Structure and behavioral |
| 4. Maintenance ----- | d. Performance tuning. |
- a. 1-c , 2-a , 3-d , 4-b
b. 1-c , 2-a , 3-b , 4-d

- c. 1-a , 2-c , 3-d , 4-b
- d. 1-b , 2-c , 3-a , 4-d

Answer [Explanation](#)

ANSWER: 1-b , 2-c , 3-a , 4-d

1) From the following, which software has been characterized by 'Number Crunching' Algorithms?

- a. System software
- b. Artificial intelligence software
- c. Embedded software
- d. Engineering and scientific software

Answer [Explanation](#)

ANSWER: Engineering and scientific software

Explanation:

No explanation is available for this question!

2) IEEE provides a standard as IEEE 830-1993. For which activity this standard is recommended standard? a. Software requirement specification.
b. Software design.
c. Testing.
d. Both a and b

Answer [Explanation](#)

ANSWER: Software requirement specification.

Explanation:

No explanation is available for this question!

3) A generic process framework for software engineering encompasses five activities. What are those activities? a. Communication, risk management, measurement, production, deployment.
b. Communication, Planning, Modeling, construction, deployment.
c. Analysis, designing, programming, debugging, maintenance
d. None of the above.

Answer [Explanation](#)

ANSWER: Communication, Planning, Modeling, construction, deployment.

Explanation:

No explanation is available for this question!

4) Who deliver the technical skills that are necessary to engineer for a product or an application? a. Project managers
b. Practitioners
c. Customers
d. End users

Answer [Explanation](#)

ANSWER: Practitioners

Explanation:

No explanation is available for this question!

- 5) Project risk factor is considered in which model? a. Spiral model.
b. Waterfall model.
c. Prototyping model
d. None of the above.

Answer [Explanation](#)

ANSWER: Spiral model.

Explanation:

No explanation is available for this question!

- 6) What is a child window that contains message for the user and request for some action to be taken? a. Dialogue box
b. Text-Box
c. Check-Box
d. Radio Button

Answer [Explanation](#)

ANSWER: Dialogue box

Explanation:

No explanation is available for this question!

- 7) A Project can be characterized as _____. a. Every project may not have a unique and distinct goal.
b. Project is routine activity or day-to-day operations.
c. Project does not comes with a start time and end time.
d. All mentioned above.
e. None of the above.

Answer [Explanation](#)

ANSWER: None of the above.

Explanation:

No explanation is available for this question!

- 8) Which model is not suitable for large software projects but good one for learning and experimenting? a. Big Bang model
b. Spiral model
c. Iterative model
d. Waterfall model

Answer [Explanation](#)

ANSWER: Big Bang model

Explanation:

No explanation is available for this question!

- 9) Which includes modifications and updations done in order to correct or fix the problems, that are either discovered by user or concluded by user error reports? a. Perfective maintenance
b. Adaptive maintenance
c. Corrective maintenance
d. Preventive maintenance

Answer [Explanation](#)

ANSWER: Corrective maintenance

Explanation:

No explanation is available for this question!

- 10) Boehm suggests an approach that addresses project objectives, milestones and schedules, responsibilities, management and technical approaches and required resources, This principle is called as _____. a. W3HH principle
b. WHO principle
c. W5HH principle
d. None of the above.

Answer [Explanation](#)

ANSWER: W5HH principle

Explanation:

No explanation is available for this question!

- 11) The objective for formal technical review is to core errors in software work products. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 12) CASE tools are set of automated software application programs, that are not used to support, accelerate and smoothen the SDLC activities. a. Yes
b. No

Answer [Explanation](#)

ANSWER: No

Explanation:

No explanation is available for this question!

- 13) From the following give three major categories of risk,
1) Schedule risk
2) Project risk
3) Technical risk
4) Business risk a. 1,2 and 3
b. 2,3 and 4
c. 1,2 and 4
d. 1,3 and 4

Answer [Explanation](#)

ANSWER: 2,3 and 4

Explanation:

No explanation is available for this question!

14) Activities and action taken on the data are represented by circle or round-edged rectangles is called _____.

- a. Entities
- b. Process
- c. Data storage
- d. Data flow

Answer [Explanation](#)

ANSWER: Process

Explanation:

No explanation is available for this question!

15) The six sigma for software engineering what gives the existing process and its output to determine the current quality performance? a. Define

- b. Analyze
- c. Measure
- d. None of the above

Answer [Explanation](#)

ANSWER: Measure

Explanation:

No explanation is available for this question!

16) Which tools are helpful in all the stages of SDLC, for requirement gathering to testing and documentation? a. Upper case tools

- b. Lower case tools
- c. Integrated case tools
- d. None of the above

Answer [Explanation](#)

ANSWER: Integrated case tools

Explanation:

No explanation is available for this question!

17) OOD languages provide a mechanism where methods performing similar tasks but vary in arguments, and that can be assigned to the same name is called _____.

- a. Classes
- b. Object
- c. Polymorphism
- d. Encapsulation

Answer [Explanation](#)

ANSWER: Polymorphism

Explanation:

No explanation is available for this question!

- 18) Abbreviate the term SMI. a. Software Maturity Index
b. Software Model Instruction
c. Software Maturity Instruction
d. Software Model Index

Answer [Explanation](#)

ANSWER: Software Maturity Index

Explanation:

No explanation is available for this question!

- 19) What computer-based system can have a profound effect on the design that is chosen and also the implementation approach will be applied? a. Scenario-based elements
b. Class-based elements
c. Behavioural elements
d. Flow-oriented elements

Answer [Explanation](#)

ANSWER: Behavioural elements

Explanation:

No explanation is available for this question!

- 20) SRS is a document created by system analyst after the requirements are collected from various stakeholders. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

- 21) Which structures in Organizational Paradigms on a team loosely and depends on individual initiative of the team members? a. Closed paradigm
b. Open paradigm
c. Random paradigm
d. Synchronous paradigm

Answer [Explanation](#)

ANSWER: Random paradigm

Explanation:

No explanation is available for this question!

- 22) Give the name to diagram that represents the flow of activities described by the use cases and at the same time the captors are involved in UML . a. State diagram
b. Swim lane diagram
c. Activity diagram
d. Component diagram

Answer [Explanation](#)

ANSWER: Swim lane diagram

Explanation:

No explanation is available for this question!

-
- 23) Which phase is refers to the support phase of software development? a. Acceptance Phase.
b. Testing.
c. Maintenance.
d. None of the above.

Answer [Explanation](#)

ANSWER: Maintenance.

Explanation:

No explanation is available for this question!

-
- 24) Which model is also called as the classic life cycle or the Waterfall model? a. Iterative Development
b. Linear Sequential Development
c. RAD Model.
d. Incremental Development

Answer [Explanation](#)

ANSWER: Linear Sequential Development

Explanation:

No explanation is available for this question!

-
- 25) What is the average effective global activity rate in an evolving E-type system is invariant over the lifetime of the product? a. Self-regulation
b. Reducing quality
c. Feedback systems
d. Organizational stability

Answer [Explanation](#)

ANSWER: Organizational stability

- 1) Which of these software characteristics are used to determine the scope of a software project? a. Only performance.
b. Only context.
c. Information objectives, function, performance
d. None of the above.

Answer [Explanation](#)

ANSWER: Information objectives, function, performance

Explanation:

No explanation is available for this question!

- 2) Which level of sub-system is used of an application? a. Application level
b. Component level
c. Modules level
d. None of the above

Answer [Explanation](#)

ANSWER: Component level

Explanation:

No explanation is available for this question!

- 3) SDLC is not a well-defined, structured sequence of stages in software engineering to develop the intended software product. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 4) In the Empirical Estimation Technique which model is developed by Barry W. Boehm? a. Putnam model
b. COCOMO
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: COCOMO

Explanation:

No explanation is available for this question!

- 5) From the following select the correct option that is used to display the available option for selection. a. Check-box
b. Text-box
c. Button
d. Radio-Button

Answer [Explanation](#)

ANSWER: Radio-Button

Explanation:

No explanation is available for this question!

- 6) CMM model in Software Engineering is a technique of _____. a. Develop the software.
b. Improve the software process.

- c. Improve the testing process.
- d. All of the above.

Answer [Explanation](#)

ANSWER: Improve the software process.

Explanation:

No explanation is available for this question!

- 7) Transformers is one of the broad category used to classify operations. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 8) The tools that support different stages of software development life cycle are called as _____ . a. CASE Tools
b. CAME tools
c. CAQE tools
d. CARE tools

Answer [Explanation](#)

ANSWER: CASE Tools

Explanation:

No explanation is available for this question!

- 9) Which is not a step of Requirement Engineering? a. Requirements elicitation
b. Requirements analysis
c. Requirements design
d. Requirements documentation

Answer [Explanation](#)

ANSWER: Requirements design

Explanation:

No explanation is available for this question!

- 10) Which of the level carries out goal, objective, work tasks, work products and other activities of the software process? a. Performed
b. INCOMPLETE
c. Optimized
d. Quantitatively Managed

Answer [Explanation](#)

ANSWER: Performed

Explanation:

No explanation is available for this question!

- 11) If you have no clue of how to improve the process for the quality software which model is used?
a. A Continuous model
b. A Staged model
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: A Staged model

Explanation:

No explanation is available for this question!

- 12) In Software validation, requirements can be checked against following conditions:
1) If they can be practically implemented
2) If they are valid and as per functionality and domain of software
3) If there are any ambiguities
4) If they are completed
a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 13) In OOD, the attributes(data variables) and methods(operation on the data) are bundled together is called _____.
a. Classes
b. Objects
c. Encapsulation
d. Inheritance

Answer [Explanation](#)

ANSWER: Encapsulation

Explanation:

No explanation is available for this question!

- 14) Which design defines the logical structure of each module and their interfaces that is used to communicate with other modules?
a. High-level designs
b. Architectural designs
c. Detailed design
d. All mentioned above

Answer [Explanation](#)

ANSWER: Detailed design

Explanation:

No explanation is available for this question!

- 15) Which tools are used in Implementation, Testing and Maintenance? a. Upper case tools
b. Lower case tools
c. Integrated case tools
d. None of the above

Answer [Explanation](#)

ANSWER: Lower case tools

Explanation:

No explanation is available for this question!

- 16) Which tools are used for project planning, cost, effort estimation, project scheduling and resource planning? a. Process modeling tools
b. Project management tools
c. Diagram tools
d. Documentation tools

Answer [Explanation](#)

ANSWER: Project management tools

Explanation:

No explanation is available for this question!

- 17) Which design deals with the implementation part in which it shows a system and its sub-systems in the previous two designs? a. Architectural design
b. High-level design
c. Detailed design
d. Both A & B

Answer [Explanation](#)

ANSWER: Detailed design

Explanation:

No explanation is available for this question!

- 18) Modularization is a technique to divide a software system into multiple discrete and independent modules. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 19) What is the project and process level that provides the Quality Metric benefit?
a. Defect amplification
b. Defect removal efficiency

- c. Measuring quality
- d. All mentioned above

Answer [Explanation](#)

ANSWER: Defect removal efficiency

Explanation:

No explanation is available for this question!

- 20) Cohesion metrics and coupling metrics are metrics in which level of design? a. User interface design
b. Pattern-based design
c. Architectural design
d. Component-level design

Answer [Explanation](#)

ANSWER: Component-level design

Explanation:

No explanation is available for this question!

- 21) Which condition defines the circumstances for a particular operation is valid? a. Postcondition
b. Precondition
c. Invariant
d. None of the above

Answer [Explanation](#)

ANSWER: Precondition

Explanation:

No explanation is available for this question!

- 22) Which subsystem implements a repository that encompasses the following elements,
1) Content database
2) Database capabilities
3) Configuration management functions
a. The publishing subsystem
b. The management subsystem
c. The collection subsystem
d. None of the above

Answer [Explanation](#)

ANSWER: The management subsystem

Explanation:

No explanation is available for this question!

- 23) Which is not a SQA activity? a. Black box testing
b. White box testing
c. Integration testing
d. Unit testing

Answer [Explanation](#)

ANSWER: White box testing

Explanation:

No explanation is available for this question!

24) PAD is metric indicates the number of classes that can access another class attributes and a violation of encapsulation. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

25) Find out which phase is not available in SDLC? a. Coding

- b. Testing
- c. Maintenance
- d. Abstraction

Answer [Explanation](#)

ANSWER: Abstraction

1) Which of the following is/are considered stakeholder in the software process? a. Customers
b. End-users
c. Project managers
d. All of the above.

Answer [Explanation](#)

ANSWER: All of the above.

Explanation:

No explanation is available for this question!

2) Software components provide interfaces, which can be used to establish communication among different components. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

3) Which SDLC activity does the user initiates the request for a desired software product? a. Requirement gathering
b. Implementation
c. Disposition
d. Communication

Answer [Explanation](#)

ANSWER: Communication

Explanation:

No explanation is available for this question!

- 4) In Risk management process what makes a note of all possible risks, that may occur in the project? a. Manage
b. Monitor
c. Categorize
d. Identification

Answer [Explanation](#)

ANSWER: Identification

Explanation:

No explanation is available for this question!

- 5) What is a measure of how well a computer system facilities learning? a. Usability
b. Functionality
c. Reliability
d. None of the above

Answer [Explanation](#)

ANSWER: Usability

Explanation:

No explanation is available for this question!

- 6) The process togather the software requirements from Client, Analyze and Document is known as _____. a. Requirement engineering process
b. Requirement elicitation process
c. User interface requirements
d. Software system analyst

Answer [Explanation](#)

ANSWER: Requirement engineering process

Explanation:

No explanation is available for this question!

- 7) Refinement is actually a process of elaboration. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 8) Who manages the effects of change throughout the software process? a. Software project tracking and control
b. Software configuration management
c. Measurement
d. Technical reviews

Answer [Explanation](#)

ANSWER: Software configuration management

Explanation:

No explanation is available for this question!

- 9) When elements of module are grouped together that are executed sequentially in order to perform a task, is called _____. a. Procedural cohesion
b. Logical cohesion
c. Emporal cohesion
d. Co-incidental cohesion

Answer [Explanation](#)

ANSWER: Procedural cohesion

Explanation:

No explanation is available for this question!

- 10) Which coupling is also known as "Global coupling"? a. Content coupling
b. Stamp coupling
c. Data coupling
d. Common coupling

Answer [Explanation](#)

ANSWER: Common coupling

Explanation:

No explanation is available for this question!

- 11) What is the detailed sequence of steps that describes the interaction between the user and the application? a. Scenario scripts
b. Support classes
c. Key classes
d. Subsystems

Answer [Explanation](#)

ANSWER: Scenario scripts

Explanation:

No explanation is available for this question!

- 12) Which risks identify Potential Design, Implementation, Interface, Verification and Maintenance Problems? a. Project risk
b. Business risk
c. Technical risk
d. Schedule risk

Answer [Explanation](#)

ANSWER: Technical risk

Explanation:

No explanation is available for this question!

13) Abbreviate the term BSS. a. Box Structure Specification

- b. Box Statistical Specification
- c. Box Statistical System
- d. Box Structure Sampling

Answer [Explanation](#)

ANSWER: Box Structure Specification

Explanation:

No explanation is available for this question!

14) What is the testing to ensure the WebApp properly interfaces with other applications or databases? a. Compatibility

- b. Interoperability
- c. Performance
- d. Security

Answer [Explanation](#)

ANSWER: Interoperability

Explanation:

No explanation is available for this question!

15) Which Variation control in the context of software engineering involves controlling variation? a. Process applied

- b. Resources expended
- c. Product quality attributes
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

16) Which classes represent data stores (e.g., a database) that will persist beyond the execution of the software? a. Process classes

- b. System classes
- c. Persistent classes
- d. User interface classes

Answer [Explanation](#)

ANSWER: Persistent classes

Explanation:

No explanation is available for this question!

- 17) Abbreviate the term CMMI. a. Capability Maturity Model Integration
b. Capability Model Maturity Integration
c. Capability Maturity Model Instructions
d. Capability Model Maturity Instructions

Answer [Explanation](#)

ANSWER: Capability Maturity Model Integration

Explanation:

No explanation is available for this question!

- 18) First level of prototype is evaluated by _____. a. Developer
b. Tester
c. User
d. System Analyst

Answer [Explanation](#)

ANSWER: User

Explanation:

No explanation is available for this question!

- 19) Which of the items listed below is not one of the software engineering layers? a. Process
b. Manufacturing
c. Methods
d. Tools

Answer [Explanation](#)

ANSWER: Manufacturing

Explanation:

No explanation is available for this question!

- 20) Line of code(LOC) of the product comes under which type of measures? a. Indirect measures
b. Direct measures
c. Coding
d. None of the above.

Answer [Explanation](#)

ANSWER: Direct measures

Explanation:

No explanation is available for this question!

- 21) What is the main aim of Software engineering? a. Reliable software
b. Cost effective software

- c. Reliable and cost effective software
- d. None of the above

Answer [Explanation](#)

ANSWER: Reliable and cost effective software

Explanation:

No explanation is available for this question!

- 22) Choose the correct option according to the given statement.

Statement 1: Software is a physical rather than a logical system element.

Statement 2: Computer software is the product that software engineers design and build.

Statement 3: Software is a logical rather than a physical system element.

Statement 4: Software is a set of application programs that are built by software engineers.

- a. Statement 1 and 2 are correct.

- b. Only Statement 2 and 3 are correct.

- c. Statement 2 and 3 and 4 are correct.

- d. All statements are correct

Answer [Explanation](#)

ANSWER: Statement 2 and 3 and 4 are correct.

Explanation:

No explanation is available for this question!

- 23) You are working in CareerRide as a project manager. What will you do to minimize the risk of software failure? a. Request a large budget

- b. You will increase the team size

- c. Track progress

- d. None of the above.

Answer [Explanation](#)

ANSWER: Track progress

Explanation:

No explanation is available for this question!

- 24) Constantine suggests four “organizational paradigms” for software engineering teams. The best project team organizational model to use when handling extremely complex problems is _____ . a. Random paradigm

- b. Open paradigm

- c. Synchronous paradigm

- d. Closed paradigm

Answer [Explanation](#)

ANSWER: Random paradigm

Explanation:

No explanation is available for this question!

- 25) For the best Software model suitable for the project, in which of the phase the developers decide a roadmap for project plan? a. Software Design

- b. System Analysis
- c. Coding
- d. Testing

Answer [Explanation](#)

ANSWER: System Analysis

- 1) Object inherits a class is known as _____. a. Maintenance
- b. Operations
- c. Transitional
- d. Development

Answer [Explanation](#)

ANSWER: Operations

Explanation:

No explanation is available for this question!

- 2) Which is the Estimation Software size should be known? a. Time estimation
- b. Effort estimation
- c. Cost estimation
- d. Software size estimation

Answer [Explanation](#)

ANSWER: Effort estimation

Explanation:

No explanation is available for this question!

- 3) What is the designers may like to have list of all functional and non-functional requirements of GUI that can be taken from user and their existing software solution? a. User analysis
- b. Task analysis
- c. GUI requirement gathering
- d. GUI design & implementation

Answer [Explanation](#)

ANSWER: GUI requirement gathering

Explanation:

No explanation is available for this question!

- 4) Which is not a broad categories that can be used to classify the operations? a. Transformers
- b. Operations
- c. Entities
- d. Attributes

Answer [Explanation](#)

ANSWER: Transformers

Explanation:

No explanation is available for this question!

- 5) Where is the prototyping model of software development well suited? a. When requirements are well defined.
b. For projects with large development teams.
c. When a customer cannot define requirements clearly.
d. None of the above.

Answer [Explanation](#)

ANSWER: When a customer cannot define requirements clearly.

Explanation:

No explanation is available for this question!

-
- 6) How many numbers of maturity levels in CMM are available? a. 3
b. 4
c. 5
d. 6

Answer [Explanation](#)

ANSWER: 5

Explanation:

No explanation is available for this question!

-
- 7) An effective project manager define a competent manager must reward Initiative and accomplishment to optimize the productivity of a project team is _____. a. Problem solving
b. Managerial identity
c. Achievement
d. Influence and team building

Answer [Explanation](#)

ANSWER: Achievement

Explanation:

No explanation is available for this question!

-
- 8) Modality is the term used to indicate whether or not a particular data object must participate in a relationship. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

-
- 9) Software Requirement Specification should come up with following features:
1) User Requirements are expressed in natural language.
2) Technical requirements are expressed in structured language, which is used inside the organization.
3) Design description should be written in Pseudo code.
a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 10) System Analysts have which of these following responsibilities? a. Analyzing and understanding requirements of intended software
b. Understanding how the project will contribute in the organization objectives
c. Identify sources of requirement
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 11) Which classes implements the lower-level business abstractions that required to fully manage the business domain classes?
a. User interface classes
b. Business domain classes
c. Process classes
d. System classes

Answer [Explanation](#)

ANSWER: Process classes

Explanation:

No explanation is available for this question!

- 12) Grouping of all functionally related elements is known as _____. a. Cohesion
b. Coupling
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Cohesion

Explanation:

No explanation is available for this question!

- 13) CASE tools are used by software project managers, analysts and engineers to develop software system. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 14) The scope of CASE tools goes throughout the SDLC. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

- 15) Which type of DFD concentrates on the system process and flow of data in the system? a. Logical DFD
b. Physical DFD
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Logical DFD

Explanation:

No explanation is available for this question!

- 16) Every attribute is defined by its corresponding set of values is called _____. a. Entity
b. Domain
c. Relationship
d. None of the above

Answer [Explanation](#)

ANSWER: Domain

Explanation:

No explanation is available for this question!

- 17) Building an excellent product or system that no one really want a risk is a _____. a. Technical risk
b. Schedule risk
c. Business risk
d. Performance risk

Answer [Explanation](#)

ANSWER: Business risk

Explanation:

No explanation is available for this question!

- 18) Budget is not a section in the standard SQA plans that are recommended in IEEE. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 19) In the management subsystem what is the functional elements and associated workflow will support the content object identification, version control, change management, change auditing and reporting? a. Content database
b. Database capabilities
c. Configuration management function
d. All mentioned above

Answer [Explanation](#)

ANSWER: Configuration management function

Explanation:

No explanation is available for this question!

- 20) Abbreviate the term ILFs. a. Interface logical files
b. Internal logical files
c. Input logical files
d. Internal logical function

Answer [Explanation](#)

ANSWER: Internal logical files

Explanation:

No explanation is available for this question!

- 21) What is a special set of ISO guidelines that developed to help the interpret standard for the use in software process? a. ISO 9001-2000
b. ISO 9001-2001
c. ISO 9000-3
d. ISO 9000-4

Answer [Explanation](#)

ANSWER: ISO 9000-3

Explanation:

No explanation is available for this question!

- 22) The ability to encourage the technical people to produce their best ability is known as _____ . a. Organization
b. Motivation
c. Ideas or innovation
d. None of the above

Answer [Explanation](#)

ANSWER: Motivation

Explanation:

No explanation is available for this question!

- 23) Mechanics for refining the processing tasks that are required for software to accomplish in some desired function is _____. a. Process decomposition
b. Problem decomposition
c. Functional decomposition
d. None of the above

Answer [Explanation](#)

ANSWER: Functional decomposition**Explanation:**

No explanation is available for this question!

- 24) Design phase is followed by _____. a. Coding
b. Testing
c. Maintenance
d. None of the above.

Answer [Explanation](#)

ANSWER: Coding**Explanation:**

No explanation is available for this question!

- 25) In software maintenance tackling the changes in the hardware and software environment where the software works, is called _____. a. Corrective
b. Perfective
c. Adaptive
d. Preventive

Answer [Explanation](#)

ANSWER: Adaptive

- 1) From the following which quality deals with maintaining the quality of the software product? a. Quality assurance
b. Quality control
c. Quality efficiency
d. None of the above

Answer [Explanation](#)

ANSWER: Quality control**Explanation:**

No explanation is available for this question!

- 2) Function-oriented design is comprised of many smaller sub-systems is known as, Functions. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

3) State if the followings are true or false.

For scheduling a project, it is necessary to:

- 1) Break down the project tasks into smaller, manageable form.
- 2) Find out various tasks and correlate them.
- 3) Estimate time frame required for each task.
- 4) Divide time into work-units.

a. True

b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

4) Software project manager is engaged with software management activities. He is responsible for _____. a. Project planning.

- b. Monitoring the progress
- c. Communication among stakeholders
- d. All mentioned above
- e. None of the above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

5) Classes communicate with one another via _____.

- a. Read sensors
- b. Dial phones
- c. Messages
- d. None of the above

Answer [Explanation](#)

ANSWER: Messages

Explanation:

No explanation is available for this question!

6) Software is not considered to be collection of executable programming code, associated libraries and documentations. a. True

b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 7) Burst force, backtracking, cause elimination are strategies used in art of debugging. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

- 8) Which quality deals with the maintaining the quality of the software product? a. Quality assurance
b. Quality control
c. Quality Efficiency
d. None of the above

Answer [Explanation](#)

ANSWER: Quality control

Explanation:

No explanation is available for this question!

- 9) Choose the correct option according to given below statement.
Statement 1: Umbrella activities are independent of any one framework activity and occur throughout the process.
Statement 2: software quality assurance, software configuration management are umbrella activity.
Statement 3: software quality assurance, software configuration management are not umbrella activity.
a. Only statement 1 is correct.
b. Statement 1 and statement 2 are correct.
c. Only statement 3 is correct.
d. Statement 1 and statement 3 are correct.

Answer [Explanation](#)

ANSWER: Statement 1 and statement 2 are correct.

Explanation:

No explanation is available for this question!

- 10) The interviews, which are held between two persons across the table is _____. a. Written
b. Non-structured
c. Group
d. One-to-one

Answer [Explanation](#)

ANSWER: One-to-one**Explanation:**

No explanation is available for this question!

- 11) Which of these primary objectives have to be achieved for the requirement model? a. To describe what the customer requires
b. To establish a basis for the creation of a software design
c. To define a set of requirements that can be validated once the software
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above**Explanation:**

No explanation is available for this question!

- 12) When elements of module are grouped because the output of one element serves as input to another element and so on, it is called _____. a. Functional Cohesion
b. Communicational cohesion
c. Sequential cohesion
d. Procedural cohesion

Answer [Explanation](#)

ANSWER: Sequential cohesion**Explanation:**

No explanation is available for this question!

- 13) The spell check feature in word processor is a module of software. a. True
b. False

Answer [Explanation](#)

ANSWER: True**Explanation:**

No explanation is available for this question!

- 14) CASE tools cannot be grouped together if they have similar functionality, process activities and capability of getting integrated with other tools. a. True
b. False

Answer [Explanation](#)

ANSWER: False**Explanation:**

No explanation is available for this question!

- 15) Which tool consist of programming environments like IDE, in-built modules library and simulation tools? a. Web development tools

- b. Prototyping tools
- c. Programming tools
- d. Design tools

Answer [Explanation](#)

ANSWER: Programming tools

Explanation:

No explanation is available for this question!

16) Which depicts flow of control in program modules?

- a. Flowchart
- b. DFD
- c. Both A & B
- d. None of the above

Answer [Explanation](#)

ANSWER: Flowchart

Explanation:

No explanation is available for this question!

17) Abbreviate the term HIPO. a. Hierarchical Input Process Output

- b. High-level Input Process Output
- c. Huge Input Process Output
- d. None of the above

Answer [Explanation](#)

ANSWER: Hierarchical Input Process Output

Explanation:

No explanation is available for this question!

18) The total number of distinct operator and operand occurrences measures are used in _____ . a. Lawrence theory

- b. Halstead's theory
- c. Kyburg, H. E.
- d. Jech, T.

Answer [Explanation](#)

ANSWER: Halstead's theory

Explanation:

No explanation is available for this question!

19) Hazard analysis focuses on the identification and assessment of potential hazards that can cause the _____ . a. External problems

- b. Internal problems
- c. Both A & B
- d. None of the above

Answer [Explanation](#)

ANSWER: External problems

Explanation:

No explanation is available for this question!

- 20) Which model gives the overall reliability of the system that is projected and certified? a. Sampling model
b. Component model
c. Certification model
d. Both A & B

Answer [Explanation](#)

ANSWER: Certification model

Explanation:

No explanation is available for this question!

- 21) Which class gives a content or function change that corrects an error or enhances local content or functionality in change management?
a. Class 1
b. Class 2
c. Class 3
d. Class 4

Answer [Explanation](#)

ANSWER: Class 1

Explanation:

No explanation is available for this question!

- 22) Which aspect is important when the software is moved from one platform to another? a. Maintenance
b. Operational
c. Transitional
d. All of the above

Answer [Explanation](#)

ANSWER: Transitional

Explanation:

No explanation is available for this question!

- 23) A software project manager is a person who undertakes the responsibility of carrying out the software project. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 24) From the following methods which size of the software product can be calculated?
a. Counting the lines of delivered code
b. Counting delivered function points
c. Both A and B
d. None of the above

Answer [Explanation](#)

ANSWER: Both A and B

Explanation:

No explanation is available for this question!

- 25) Which chart is a tool that depicts project as network diagram that is capable of graphically representing main events of project in both parallel and consecutive way?
a. PERT chart
b. Gantt chart
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: PERT chart

- 1) When elements of module are grouped because the output of one element serves as input to another and so on, it is called _____.
a. Functional cohesion
b. Sequential cohesion
c. Communicational cohesion
d. Procedural cohesion

Answer [Explanation](#)

ANSWER: Sequential cohesion

Explanation:

No explanation is available for this question!

- 2) A good design review is not important for good software design and its accuracy and quality.
a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 3) In project execution and monitoring, every project is divided into multiple phases according to that in which phase of SDLC all major tasks are performed?
a. Milestones checklist
b. Status reports
c. Activity monitoring
d. None of the above

Answer [Explanation](#)

ANSWER: Milestones checklist

Explanation:

No explanation is available for this question!

- 4) Abbreviate the term PERT. a. Program Evolution & Review Technique
b. Process Evolution & Review Tool
c. Project Evaluation & Request Technique
d. None of the above

Answer [Explanation](#)

ANSWER: Program Evolution & Review Technique

Explanation:

No explanation is available for this question!

- 5) Which is the degree where the software performs its required function? a. Correctness
b. Clarity
c. Completeness
d. Consistency

Answer [Explanation](#)

ANSWER: Correctness

Explanation:

No explanation is available for this question!

- 6) Which is the characteristics of Software risk? a. Uncertainty
b. Loss
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Both A & B

Explanation:

No explanation is available for this question!

- 7) UI can be graphical text-based, audio-video based and depending upon the underlying hardware and software combination. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 8) Data flow diagram is a graphical representation of flow of data in an information system. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 9) Object Constraint Language (OCL) is a formal notation developed, so that users of UML can add more precision to their specifications. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 10) Which is the publishing subsystem that does not require any further processing and are transmitted directly to the client side? a. Static elements
b. Publication services
c. External services
d. None of the above

Answer [Explanation](#)

ANSWER: Static elements

Explanation:

No explanation is available for this question!

- 11) Techniques that allows a software engineer to understand how a work process is completed when several people are included, is called _____. a. Work flow analysis
b. Does not track potential risks
c. Cover problem areas before they go “critical.”
d. Does not adjust work flow or tasks

Answer [Explanation](#)

ANSWER: Work flow analysis

Explanation:

No explanation is available for this question!

- 12) Which model depicts the profile of the end users of a computer system? a. User model
b. Requirements model
c. Design model
d. State model

Answer [Explanation](#)

ANSWER: User model

Explanation:

No explanation is available for this question!

- 13) System classes define all abstractions that are necessary for human computer interaction (HCI).
a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 14) To compute Function Point (FP) which of the following relationship is used? Where F_i = complexity adjustment values.
a. $FP = \text{count total} * [0.01 * S(F_i)]$
b. $FP = \text{count total} * [0.65 + 0.01 * S(F_i)]$
c. $FP = \text{count total} * [0.65]$
d. None of the above.

Answer [Explanation](#)

ANSWER: $FP = \text{count total} * [0.65 + 0.01 * S(F_i)]$

Explanation:

No explanation is available for this question!

- 15) Measure of reliability is given by _____.
a. Mean Time between success.
b. Mean reliable
c. Mean Time between failure (MTBF).
d. MTTR

Answer [Explanation](#)

ANSWER: Mean Time between failure (MTBF).

Explanation:

No explanation is available for this question!

- 16) Which of the following provides semi-automatic and automatic support to methods in a layered technology?
a. Methods
b. Tools
c. Process
d. Quality Focus

Answer [Explanation](#)

ANSWER: Tools

Explanation:

No explanation is available for this question!

- 17) If the software process were not based on scientific and engineering concepts it would be easier to re-create new software than to scale an existing one, is known as _____.
a. Cost
b. Dynamic Management
c. Large Software
d. Scalability

Answer [Explanation](#)

ANSWER: Scalability

Explanation:

No explanation is available for this question!

18) Abbreviate the term SRS. a. Software Requirement Specification

- b. Software Refining Solution
- c. Software Resource Source
- d. None of the above

Answer [Explanation](#)

ANSWER: Software Requirement Specification

Explanation:

No explanation is available for this question!

19) The process together the software requirements from Client, Analyze and Document is known as _____. a. Requirement engineering process

- b. Requirement elicitation process
- c. User interface requirements
- d. Software system analyst

Answer [Explanation](#)

ANSWER: Requirement engineering process

Explanation:

No explanation is available for this question!

20) From the following which method will be adopted in Reuse process? a. Either by keeping requirements same and adjusting components

- b. By keeping components same and modifying requirements.
- c. Both A & B
- d. None of the above

Answer [Explanation](#)

ANSWER: Both A & B

Explanation:

No explanation is available for this question!

21) Which core steps are defined by six sigma methodology? a. Analyze

- b. Define
- c. Measure
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 22) The ISO quality assurance standard that applies to software engineering is ISO 9000:2000. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 23) Which tools are used to represent the system components, data and control flow among various software components and a system structure in a graphical form? a. Process modeling tools
b. Project management tools
c. Diagram tools
d. Documentation tools

Answer [Explanation](#)

ANSWER: Diagram tools

Explanation:

No explanation is available for this question!

- 24) Which is a logical grouping of data that resides within the application's boundary and it is maintained via external inputs? a. Number of external interface files
b. Number of internal logical files
c. Number of external inquiries
d. Number of external inputs

Answer [Explanation](#)

ANSWER: Number of internal logical files

Explanation:

No explanation is available for this question!

- 25) The evaluation of metrics resulting in insight and the quality of the representation is

- a. Analysis
- b. Formulation
- c. Interpretation
- d. Feedback

Answer [Explanation](#)

ANSWER: Interpretation

- 1) Which is the way where the CMMI process meta model can be represented? a. A continuous model
b. A staged model
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Both A & B

Explanation:

No explanation is available for this question!

-
- 2) Spiral model is a combination of both Iterative model and one of the SDLC model. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 3) If the software process were based on scientific and engineering concepts, it would be easier to re-create new software than to scale an existing one.

- a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

-
- 4) The software design paradigm is a part of software development and it includes _____

- a. Design, Maintenance, Programming
b. Coding, Testing, Integration
c. Requirement gathering, Software design, Programming
d. None of the above

Answer [Explanation](#)

ANSWER: Design, Maintenance, Programming

Explanation:

No explanation is available for this question!

-
- 5) The software scope identifies what the product will do and what it will not do, what the end product will contain and what it will not contain. a. True

- b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 6) The software becomes more popular if its user interface is _____.

- a. Attractive
b. Simple to use
c. Responsive in short time
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

-
- 7) Which type of DFD shows how the data flow is actually implemented in the system and it is also more specific and close to the implementation? a. Logical DFD
b. Physical DFD
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Physical DFD

Explanation:

No explanation is available for this question!

-
- 8) Measurements can be categorized in two ways. What are those two ways? a. Direct and Indirect
b. Front and Rear
c. Metric
d. Quality and Reliability.

Answer [Explanation](#)

ANSWER: Direct and Indirect

Explanation:

No explanation is available for this question!

-
- 9) Quality of the product comes under which type of measures? a. Indirect measures
b. Direct measures
c. Coding
d. None of the above.

Answer [Explanation](#)

ANSWER: Indirect measures

Explanation:

No explanation is available for this question!

-
- 10) Requirements can be gathered from users via interviews, surveys, task analysis, brainstorming, domain analysis, prototyping, studying existing usable version of software, and by observation. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 11) In the requirement analysis which model depicts how the software behaves as a consequence of external events? a. Class-Oriented models
b. Scenario-based models
c. Flow-oriented models
d. Behavioural models

Answer [Explanation](#)

ANSWER: Behavioural models

Explanation:

No explanation is available for this question!

12) What is a black box testing method that divides the input domain of a program into classes of data from which test cases can be derived? a. Binary partitioning

- b. Equivalence partitioning
- c. State-based partitioning
- d. Attribute-based partitioning

Answer [Explanation](#)

ANSWER: Equivalence partitioning

Explanation:

No explanation is available for this question!

13) To collect qualitative data, questionnaires can be distributed to users of the prototype. a. yes

- b. no

Answer [Explanation](#)

ANSWER: yes

Explanation:

No explanation is available for this question!

14) Software Maturity Index is computed with the following formula: [MT (FA+FC+FD)]/MT. a. True

- b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

15) What does Statistical Quality Assurance involve? a. Tracking each defect to its underlying cause

- b. Isolated the "vital few" cause
- c. Moving to correct them
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

16) The New modules, that are need to be replaced or modified, and they are also designed against requirement specifications set in the previous stage is _____ . a. Acceptance testing

- b. System Testing
- c. Delivery
- d. Design

Answer [Explanation](#)

ANSWER: Design**Explanation:**

No explanation is available for this question!

-
- 17) In software maintenance removing errors spotted by users is known as _____. a. Adaptive
b. Corrective
c. Perfective
d. Preventive

Answer [Explanation](#)

ANSWER: Corrective**Explanation:**

No explanation is available for this question!

-
- 18) What should a software team apply for limited resources in a way that has the highest likelihood of achieving a high-quality result? a. Requirement quality
b. Design quality
c. Code quality
d. Quality control effectiveness

Answer [Explanation](#)

ANSWER: Quality control effectiveness**Explanation:**

No explanation is available for this question!

-
- 19) What is tested to uncover errors that indicate lack of conformance to customer requirements in the dimensions of quality? a. Structure
b. Function
c. Usability
d. Navigation

Answer [Explanation](#)

ANSWER: Function**Explanation:**

No explanation is available for this question!

-
- 20) Each metric should be validated empirically in a wide variety of contexts before being published and that are used to make decisions. a. True
b. False

Answer [Explanation](#)

ANSWER: True**Explanation:**

No explanation is available for this question!

-
- 21) Which feature relieves anxiety, so the user knows that errors can be undone? a. Support internal locus of control
b. Permit easy reversal of actions
c. Offer simple error handling
d. Design dialog to yield closure

Answer [Explanation](#)

ANSWER: Permit easy reversal of actions

Explanation:

No explanation is available for this question!

22) A command is a text-based reference to set of instructions, that are expected to be executed by the system. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

23) A good structured design has low cohesion and high coupling arrangements. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

24) What is a text-based notifier that is mostly shows the context in which the user is working, and it is also generated by the software system? a. Command prompt
b. Cursor
c. Command
d. All mentioned above

Answer [Explanation](#)

ANSWER: Command prompt

Explanation:

No explanation is available for this question!

25) Modular design unintentionally follows the rules of 'divide and conquer' problem solving strategy. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

1) Develop an abbreviated solution for the problem is an objective for building an analysis model. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

-
- 2) A quality objective for a software team is achieve in how many DRE approaches? a. 2
b. 3
c. 1
d. 4

Answer [Explanation](#)

ANSWER: 1

Explanation:

No explanation is available for this question!

-
- 3) In Re-engineering process which concepts in order to get re-engineered software? a. Apply forward engineering
b. Perform
c. Decide
d. Re-structure program

Answer [Explanation](#)

ANSWER: Apply forward engineering

Explanation:

No explanation is available for this question!

-
- 4) System size is a metric for the analysis model. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 5) Which software works strictly according to defined specifications and solutions? a. Static-type
b. Practical-type
c. Embedded-type
d. None of the above

Answer [Explanation](#)

ANSWER: Static-type

Explanation:

No explanation is available for this question!

- 6) Software scope is not a well-defined boundary, which encompasses all the activities that are done to develop and deliver the software product. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 7) Resource Histogram is an effective tool for staff planning and coordination. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 8) In the requirement analysis which model depicts the information domain for the problem? a. Data models
b. Class-Oriented models
c. Scenario-based models
d. Flow-oriented models

Answer [Explanation](#)

ANSWER: Data models

Explanation:

No explanation is available for this question!

- 9) Requirements can be checked against following conditions.

- 1) If they cannot be practically implemented.
- 2) If they are not valid and as per functionality and domain of software.
- 3) If there are no ambiguities.

- a. True
- b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 10) Every attribute is defined by its corresponding set of values, called Attributes. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 11) The logical association among entities is called relationship. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 12) Which of these activities is not one of the activities recommended to be performed by an independent SQA group? a. Serve as the sole test team for any software produced.
b. The tools and methods that support SQA actions and tasks.
c. Software configuration management procedures.
d. Organizational roles and responsibilities relative to product quality.

Answer [Explanation](#)

ANSWER: Serve as the sole test team for any software produced.

Explanation:

No explanation is available for this question!

- 13) An effective risk management plan will need to address which of the following issues? a. Risk avoidance
b. Risk monitoring
c. Contingency planning
d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

14) If maintenance cost changes are often left undocumented which may cause more conflicts in future software. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

15) What is the software component repository referred by designers to search for the matching component on the basis of functionality and intended software requirements? a. Search suitable components
b. Specify components
c. Requirement specification
d. Incorporate components

Answer [Explanation](#)

ANSWER: Search suitable components

Explanation:

No explanation is available for this question!

16) Knowledge of software program, design and structure is essential in _____. a. Black-box testing
b. White-box testing
c. Integration testing
d. None of the above

Answer [Explanation](#)

ANSWER: White-box testing

Explanation:

No explanation is available for this question!

- 17) Software design is a process to transform user requirements into some suitable form, that helps the programmer in software coding and implementation. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 18) Function oriented metric were first proposed by _____ and he suggested a measure called the _____.
a. Barry Boehm, KLOC.
b. Barry Boehm, Function point.
c. Albrecht, Function point.
d. Albrecht, KLOC.

Answer [Explanation](#)

ANSWER: Albrecht, Function point.

Explanation:

No explanation is available for this question!

-
- 19) Line of code(LOC) can be used to normalize quality and/or productivity measure for _____.
a. Extended function point metrics
b. Function point metrics.
c. Size oriented metrics.
d. None of the above.

Answer [Explanation](#)

ANSWER: Size oriented metrics.

Explanation:

No explanation is available for this question!

-
- 20) Match the following List 1 with List 2:

- a. Good quality ----- i. Program does not fail for a specified time in a given environment
b. Correctness ----- ii. Meets the functional requirements
c. Predictable ----- iii. Meets both functional and non-functional requirements
d. Reliable ----- iv. Process is under statistical control Codes

- a. a - iii, b - ii, c - iv, d - i
b. a - ii, b - iii, c - iv, d - i

- c. a - i, b - ii, c - iv, d - iii
d. a - i, b - ii, c - iii, d - iv

Answer [Explanation](#)

ANSWER: a - iii, b - ii, c - iv, d - i

Explanation:

No explanation is available for this question!

- 21) What is the level of metrics and indicators that are available to measure the process and quality? a. Optimized
b. Defined
c. Quantitatively Managed
d. Managed

Answer [Explanation](#)

ANSWER: Quantitatively Managed

Explanation:

No explanation is available for this question!

- 22) Software when made for a specific requirement is called, Software Product. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

- 23) Threat is the probability that can attack a specific type and it also occur within a given time. a. Yes
b. No

Answer [Explanation](#)

ANSWER: Yes

Explanation:

No explanation is available for this question!

- 24) What should they focus on consequences that affect on the Software Risk Impact Assessment? a. Performance

- b. Support and cost
- c. Schedule
- d. All mentioned above

Answer [Explanation](#)

ANSWER: All mentioned above

Explanation:

No explanation is available for this question!

- 25) Layout appropriateness according to sears is a worthwhile design metric for human/computer interfaces. a. True
b. False

Answer [Explanation](#)

ANSWER: True

- 1) The process of developing a software product using software engineering principles and methods is referred to as, _____. a. Software myths
b. Scientific Product
c. Software Evolution
d. None of the above

Answer [Explanation](#)

ANSWER: Software Evolution

Explanation:

No explanation is available for this question!

- 2) _____ is a piece of programming code which performs a well defined task. a. Computer Program
b. Computer Software
c. Both A & B
d. None of the above

Answer [Explanation](#)

ANSWER: Computer Program

Explanation:

No explanation is available for this question!

- 3) Modelling is a representation of the object-oriented classes and the resultant collaborations will allow a system to function.** a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

- 4) Fan-in is an indication of _____.** a. Objects
b. Inheritance
c. Messages
d. Polymorphism

Answer [Explanation](#)

ANSWER: Inheritance

Explanation:

No explanation is available for this question!

- 5) Application of science, tools and methods to find cost effective solution to the problems is a definition of software engineering.** a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

- 6) Abbreviate the term OOHMD.** a. Object-Oriented Hypermedia Design Method
b. Objet-Oriented High Design method
c. Objet-Oriented Hypermedia Development Method
d. Object-Oriented Hypermedia Distributed Method

Answer [Explanation](#)

ANSWER: Object-Oriented Hypermedia Design Method

Explanation:

No explanation is available for this question!

- 7) Preventive maintenance is implementing changes in existing or new requirements of user. a. True
b. False

Answer [Explanation](#)

ANSWER: False

Explanation:

No explanation is available for this question!

-
- 8) Which software designers tool helps to design the block structure of the software, that may further be broken down into smaller modules using refinement techniques? a. Analysis tools
b. Design tools
c. Configuration management tools
d. Documentation tools

Answer [Explanation](#)

ANSWER: Design tools

Explanation:

No explanation is available for this question!

-
- 9) In software metrics which metrics evaluate the track budget, schedule and human resource? a. Requirement metrics
b. Product metrics
c. Process metrics
d. None of the above

Answer [Explanation](#)

ANSWER: Process metrics

Explanation:

No explanation is available for this question!

-
- 10) Elements of module in functional cohesion are grouped because they all contribute to a single well-defined function. It can also be reused. a. True
b. False

Answer [Explanation](#)

ANSWER: True

Explanation:

No explanation is available for this question!

-
- 11) Activities and action taken on the data that are represented by Circle or Round-edged Rectangles are called, _____. a. Process
b. Data storage
c. Data flow
d. Entities

Answer [Explanation](#)

ANSWER: Process

Explanation:

No explanation is available for this question!

-
- 12) When multiple modules have read and write access to some global data, it is called, _____.
a. Content coupling
b. Stamp coupling
c. Data coupling
d. Common coupling

Answer [Explanation](#)

ANSWER: Common coupling

Explanation:

No explanation is available for this question!

-
- 13) MTTC stands for _____. a. Mean time to change
b. Modular time to change
c. Mean time to control
d. Modular time to control

Answer [Explanation](#)

ANSWER: Mean time to change

Explanation:

No explanation is available for this question!

-
- 14) Which is the Layered Technology in Bedrock that supports Software Engineering? a. Methods
b. Tools
c. Process
d. Quality Focus

Answer [Explanation](#)

ANSWER: Quality Focus

Explanation:

No explanation is available for this question!

15) What does the physical connections between the elements of the OO design represent? a. Cohesion

- b. Coupling
- c. Both A & B
- d. None of the above

Answer [Explanation](#)

ANSWER: Coupling

Explanation:

No explanation is available for this question!

16) How many characteristics does Value Adjustment Factor(VAF) in Function Point Analysis have? a. 11

- b. 12
- c. 13
- d. 14

Answer [Explanation](#)

ANSWER: 14

Explanation:

No explanation is available for this question!

17) Which of the following techniques is not a White box technique? a. Statement Testing and coverage

- b. Decision Testing and coverage
- c. Condition Coverage
- d. Boundary value analysis

Answer [Explanation](#)

ANSWER: Boundary value analysis

Explanation:

No explanation is available for this question!

- 18) SPICE Means _____. a. Software Process Improvement and Capability Determination.
b. Software Process Improvement and Compatibility Determination.
c. Software Process Invention and Compatibility Determination.
d. Software Process Improvement and Control Determination.

Answer [Explanation](#)

ANSWER: Software Process Improvement and Capability Determination.

Explanation:

No explanation is available for this question!

- 19) The desired level of coupling is _____. a. No coupling
b. Control coupling
c. Common coupling
d. Data coupling

Answer [Explanation](#)

ANSWER: Data coupling

Explanation:

No explanation is available for this question!

- 20) Coupling and cohesion can be represented using a _____. a. cause-effect graph
b. dependence matrix
c. Structure chart
d. SRS

Answer [Explanation](#)

ANSWER: dependence matrix

Explanation:

No explanation is available for this question!

- 21) Changes are made to the system to reduce the future system failure chances is called _____. a. Preventive Maintenance
b. Adaptive Maintenance
c. Corrective Maintenance
d. Perfective Maintenance

Answer [Explanation](#)

ANSWER: Preventive Maintenance

Explanation:

No explanation is available for this question!

-
- 22) The feature of the object oriented paradigm which helps code reuse is _____. a. Object
b. Class
c. Inheritance
d. Aggregation.

Answer [Explanation](#)

ANSWER: Inheritance

Explanation:

No explanation is available for this question!

- 23) The Phases of formal review process are mentioned below. Arrange them in the correct order.

- i. Planning
 - ii. Review Meeting
 - iii. Rework
 - iv. Individual Preparations
 - v. Kick Off
 - vi. Follow Up
-
- a. i,ii,iii,iv,v,vi
 - b. vi,i,ii,iii,iv,v
 - c. i,v,iv,ii,iii,vi
 - d. i,ii,iii,v,iv,vi

Answer [Explanation](#)

ANSWER: i,v,iv,ii,iii,vi

Explanation:

No explanation is available for this question!

- 24) Which Chart is a statistical technique to assess, monitor, and maintain the stability of a process? a. Control Chart
b. Maintenance Chart
c. Bar Charts
d. None of these

Answer [Explanation](#)

ANSWER: Control Chart

Explanation:

No explanation is available for this question!

-
- 25) Cost of Production = Right The First time cost (RTF +-----) . a. Cost of Deployment
b. Cost of Quality
c. Cost of maintenance
d. Cost of Production

Answer [Explanation](#)

ANSWER: Cost of Quality

- 1) In a risk-based approach the risks identified may be used to:

- i. Determine the test technique to be employed
 - ii. Determine the extent of testing to be carried out
 - iii. Prioritize testing in an attempt to find critical defects as early as possible.
 - iv. Determine the cost of the project
-
- a. ii is True; i, iii, iv and v are False
 - b. i,ii,iii are true and iv is false
 - c. ii and iii are True; i, iv are False
 - d. ii, iii and iv are True; i is false

Answer [Explanation](#)

ANSWER: i,ii,iii are true and iv is false

Explanation:

No explanation is available for this question!

-
- 2) Which of the following is not a part of the Test Implementation and Execution Phase?
- a. Creating test suites from the test cases
 - b. Executing test cases either manually or by using test execution tools
 - c. Comparing actual results
 - d. Designing the Tests

Answer [Explanation](#)

ANSWER: Designing the Tests

Explanation:

No explanation is available for this question!

-
- 3) The Test Cases Derived from use cases _____. a. Are most useful in uncovering defects in the process flows during real world use of the system.
b. Are most useful in uncovering defects in the process flows during the testing use of the system.
c. Are most useful in covering the defects in the process flows during real world use of the

system.

- d. Are most useful in covering the defects at the Integration Level.

Answer [Explanation](#)

ANSWER: Are most useful in uncovering defects in the process flows during real world use of the system.

Explanation:

No explanation is available for this question!

- 4) What can static analysis NOT find? a. The use of a variable before it has been defined.
b. Unreachable (“dead”) code.
c. Memory leaks.
d. Array bound violations.

Answer [Explanation](#)

ANSWER: Memory leaks.

Explanation:

No explanation is available for this question!

- 5) Which plan describes how the skills and experience of the project team members will be developed ? a. HR Plan
b. Manager Plan
c. Team Plan
d. Staff Development Plan

Answer [Explanation](#)

ANSWER: Staff Development Plan

Explanation:

No explanation is available for this question!

- 6) Alpha and Beta Testing are forms of _____. a. Acceptance testing
b. Integration testing
c. System Testing
d. Unit testing

Answer [Explanation](#)

ANSWER: Acceptance testing

Explanation:

No explanation is available for this question!

7) The model in which the requirements are implemented by its category is _____.

- . a. Evolutionary Development Model
- b. Waterfall Model
- c. Prototyping
- d. Iterative Enhancement Model

Answer [Explanation](#)

ANSWER: Evolutionary Development Model

Explanation:

No explanation is available for this question!

8) A COCOMO model is _____. a. Common Cost Estimation Model.

- b. Constructive Cost Estimation Model.
- c. Complete Cost Estimation Model.
- d. Comprehensive Cost Estimation Model

Answer [Explanation](#)

ANSWER: Constructive Cost Estimation Model.

Explanation:

No explanation is available for this question!

9) SRD stands for _____. a. Software Requirements Definition

- b. Structured Requirements Definition
- c. Software Requirements Diagram
- d. Structured Requirements Diagram

Answer [Explanation](#)

ANSWER: Structured Requirements Definition

Explanation:

No explanation is available for this question!

10) The tools that support different stages of software development life cycle are called _____.

- . a. CASE Tools
- b. CAME tools
- c. CAQE tools
- d. CARE tools

Answer [Explanation](#)

ANSWER: CASE Tools

Explanation:

No explanation is available for this question!

- 11) Software consists of _____. a. Set of instructions + operating procedures
b. Programs + documentation + operating procedures
c. Programs + hardware manuals
d. Set of programs

Answer [Explanation](#)

ANSWER: Programs + documentation + operating procedures

Explanation:

No explanation is available for this question!

- 12) Which is the most important feature of spiral model? a. Quality management
b. Risk management
c. Performance management
d. Efficiency management

Answer [Explanation](#)

ANSWER: Risk management

Explanation:

No explanation is available for this question!

- 13) If every requirement stated in the Software Requirement Specification (SRS) has only one interpretation, SRS is said to be correct _____. a. Unambiguous
b. Consistent
c. Verifiable
d. None of the above

Answer [Explanation](#)

ANSWER: Unambiguous

Explanation:

No explanation is available for this question!

- 14) Which is not a step of Requirement Engineering? a. Requirements elicitation
b. Requirements analysis

- c. Requirements design
- d. Requirements documentation

Answer [Explanation](#)

ANSWER: Requirements design

Explanation:

No explanation is available for this question!

- 15) FAST stands for _____. a. Functional Application Specification Technique
b. Fast Application Specification Technique
c. Facilitated Application Specification Technique
d. None of the above

Answer [Explanation](#)

ANSWER: Facilitated Application Specification Technique

Explanation:

No explanation is available for this question!

- 16) The level at which the software uses scarce resources is _____. a. Reliability
b. Efficiency
c. Portability
d. All of the above

Answer [Explanation](#)

ANSWER: Efficiency

Explanation:

No explanation is available for this question!

- 17) Modifying the software to match changes in the ever changing environment is called
a. Adaptive maintenance
b. Corrective maintenance
c. Perfective maintenance
d. Preventive maintenance

Answer [Explanation](#)

ANSWER: Adaptive maintenance

Explanation:

No explanation is available for this question!

18) If every requirement can be checked by a cost-effective process, then the SRS is _____

- . a. Verifiable
- b. Traceable
- c. Modifiable
- d. Complete

Answer [Explanation](#)

ANSWER: Verifiable

Explanation:

No explanation is available for this question!

19) Aggregation represents _____. a. is_a relationship

- b. part_of relationship
- c. composed_of relationship
- d. none of above

Answer [Explanation](#)

ANSWER: composed_of relationship

Explanation:

No explanation is available for this question!

20) If P is risk probability, L is loss, then Risk Exposure (RE) is computed as _____. a. RE = P/L

- b. RE = P + L
- c. RE = P*L
- d. RE = 2* P *L

Answer [Explanation](#)

ANSWER: RE = P*L

Explanation:

No explanation is available for this question!

21) Number of clauses used in ISO 9001 to specify quality system requirements are _____. a. 15

- b. 20
- c. 25
- d. 28

Answer [Explanation](#)

ANSWER: 20

Explanation:

No explanation is available for this question!

- 22) ER model shows the _____. a. Static view
b. Functional view
c. Dynamic view
d. All the above

Answer [Explanation](#)

ANSWER: Static view

Explanation:

No explanation is available for this question!

- 23) IEEE 830-1993 is a IEEE recommended standard for _____. a. Software Requirement Specification
b. Software design
c. Testing
d. Both (A) and (B)

Answer [Explanation](#)

ANSWER: Software Requirement Specification

Explanation:

No explanation is available for this question!

- 24) One of the fault base testing techniques is _____. a. Unit Testing
b. Beta Testing
c. Stress Testing
d. Mutation Testing

Answer [Explanation](#)

ANSWER: Mutation Testing

Explanation:

No explanation is available for this question!

- 25) If the objects focus on the problem domain, then we are concerned with _____. a. Object Oriented Analysis
b. Object Oriented Design
c. Object Oriented Analysis and Design
d. None of the above

Answer [Explanation](#)

ANSWER: Object Oriented Analysis

1

. Which question no longer concerns the modern software engineer?

- Why does computer hardware cost so much?
- Why does software take a long time to finish?
- Why does it cost so much to develop a piece of software?
- Why can't software errors be removed from products prior to delivery?

A. Why does computer hardware cost so much?

Explanation : These, and many other questions, are a manifestation of the concern about software and the manner in which it is developed—a concern that has lead to the adoption of software engineering practice.

- Why does it take so long to get software finished?
- Why are development costs so high?
- Why can't we find all errors before we give the software to our customers?
- Why do we spend so much time and effort maintaining existing programs?
- Why do we continue to have difficulty in measuring progress as software is being developed and maintained?

2

. Software is a product and can be manufactured using the same technologies used for other engineering artifacts

- True
- False

B. False

Explanation : The characteristics of software that make it different from other things that human beings build. Software is a logical rather than a physical system element. Therefore, software has characteristics that are considerably different than those of hardware.

3

. Software deteriorates rather than wears out because

- Software suffers from exposure to hostile environments
- Defects are more likely to arise after software has been used often
- Multiple change requests introduce errors in component interactions
- Software spare parts become harder to order

C. Multiple change requests introduce errors in component interactions

Explanation : During its life, software will undergo change. As changes are made, it is likely that errors will be introduced, causing the failure rate curve to spike that means the software is deteriorating due to change.

4

- . WebApps are a mixture of print publishing and software development, making their development outside the realm of software engineering practice.

5

- . There are no real differences between creating WebApps and MobileApps

6

- . In its simplest form an external computing device may access cloud data services using a web browser.

7

- . Product line software developments depends the reuse of existing software components to provide software engineering leverage.

8

- . Which of the items listed below is not one of the software engineering layers?

- Process
- Manufacturing
- Methods
- Tools

B. Manufacturing

Explanation : Software engineering is a layered technology

1. any engineering approach (including software engineering) must rest on an organizational commitment to **quality**. Total quality management, Six Sigma.
2. The foundation for software engineering is the **process** layer. The software engineering process is the glue that holds the technology layers together and enables rational and timely development of computer software.
3. Software engineering **methods** provide the technical how-to's for building software. Methods encompass a broad array of tasks that include communication, requirements analysis, design modeling, program construction, testing, and support.
4. Software engineering **tools** provide automated or semi automated support for the process and the methods

9

. Software engineering umbrella activities are only applied during the initial phases of software development projects.

- True
- False

B. False

Explanation : The process framework encompasses a set of umbrella activities that are applicable across the entire software process.

10

. Which of these are the 5 generic software engineering framework activities?

- communication, planning, modeling, construction, deployment
- communication, risk management, measurement, production, reviewing
- analysis, designing, programming, debugging, maintenance
- analysis, planning, designing, programming, testing

A. communication, planning, modeling, construction, deployment

Explanation : A generic process framework for software engineering encompasses five activities:
1.Communication 2.Planning. 3.Modeling 4.Construction 5.Deployment

11

. Planning ahead for software reuse reduce the cost and increases the value of the systems into which they are incorporated

- True
- False

A. True

Explanation : Plan Ahead for Reuse: Reuse saves time and effort. Achieving a high level of reuse is arguably the hardest goal to accomplish in developing a software system. The reuse of code and designs has been proclaimed as a major benefit of using object-oriented technologies. To leverage the reuse possibilities that object-oriented [or conventional] programming provides requires forethought and planning.

12

. The essence of software engineering practice might be described as understand the problem, plan a solution, carry out the plan, and examine the result for accuracy.

- True
- False

A. True

Explanation : The essence of software engineering practice:

1. Understand the problem (communication and analysis).
2. Plan a solution (modeling and software design)
3. Carry out the plan (code generation)
4. Examine the result for accuracy (testing and quality assurance)

13

. In agile process models the only deliverable work product is the working program.

- True
- False

B. False

Explanation : Reality: A working program is only one part of a software configuration that includes many elements. A variety of work products (e.g., models, documents, plans) provide a foundation for successful engineering and, more important, guidance for software support.

14

. A most software development projects are initiated to try to meet some business need.

- True
- False

A. True

Explanation : Every software project is precipitated by some business need—the need to correct a defect in an existing application; the need to adapt a “legacy system” to a changing business environment; the need to extend the functions and features of an existing application; or the need to create a new product, service, or system.

15

. In general software only succeeds if its behavior is consistent with the objectives of its designers.

- True
- False

B. False

Explanation : The market will accept the product only if the software embedded within it properly meets the customer's (as yet unstated) needs.

16

. Today the increased power of the personal computer has brought about an abandonment of the practice of team development of software.

17

. Most software continues to be custom built because

- Component reuse is common in the software world.
- Reusable components are too expensive to use.
- Software is easier to build without using someone else's components.
- Off-the-shelf software components are unavailable in many application domains.

D. Off-the-shelf software components are unavailable in many application domains.

18

. The nature of software applications can be characterized by their information

- Complexity
- Content
- Determinacy
- both b and c

D. both b and c

19

. Modern software applications are so complex that it is hard to develop mutually exclusive category names.

Ans: TRUE

20

. The so called "new economy" that gripped commerce and finance during the 1990s died and no longer influences decisions made by businesses and software engineers.

ANS: FALSE

21

. The functionality of most computer systems does not need to be enhanced the lifetime of the system.

ANS: FALSE

22

. Change cannot be easily accommodated in most software systems, unless the system was designed with change in mind.

ANS: TRUE

1

. Process models are described as agile because they

- Eliminate the need for cumbersome documentation
- Emphasize maneuverability and adaptability
- Do not waste development time on planning activities
- Make extensive use of prototype creation

B. Emphasize maneuverability and adaptability

2

. Which of these terms are level names in the Capability Maturity Model?

- Performed
- Repeated
- Reused
- Optimized
- both a and d

E. both a and d

3

. The best software process model is one that has been created by the people who will actually be doing the work.

ANS: TRUE

4

. Which of the following are recognized process flow types?

- Concurrent process flow
- Iterative process flow
- Linear process flow
- Spiral process flow
- both b and c

E. both b and c

5

. The communication activity is best handled for small projects using six distinct actions (inception, elicitation, elaboration, negotiation, specification, validation).

ANS: FALSE

6

. A good software development team always uses the same task set for every project to insure high quality work products

ANS: FALSE

7

. Software processes can be constructed out of pre-existing software patterns to best meet the needs of a software project

ANS: TRUE

8

. Which of these are standards for assessing software processes?

- SEI
- SPICE
- ISO 9000
- ISO 9001
- both b and d

E. both b and d

1

. The rapid application development model is

- Another name for component-based development
- A useful approach when a customer cannot define requirements clearly.
- A high speed adaptation of the linear sequential model.
- All of the above.

C. A high speed adaptation of the linear sequential model.

2

. In the Unified Process model requirements are determined iteratively and may span more than one phase of the process.

- True
- False

3

. The waterfall model of software development is

- A reasonable approach when requirements are well defined.
- A good approach when a working program is required quickly.
- The best approach to use for projects with large development teams
- An old fashioned model that is rarely used any more

A. A reasonable approach when requirements are well defined.

4

. The incremental model of software development is

- A reasonable approach when requirements are well defined.
- A good approach when a working core product is required quickly.
- The best approach to use for projects with large development teams
- A revolutionary model that is not used for commercial products.

B. A good approach when a working core product is required quickly.

5

. Evolutionary software process models

- Are iterative in nature
- Can easily accommodate product requirements changes
- Do not generally produce throwaway systems
- All of the above.

D. All of the above.

6

. The prototyping model of software development is

- A reasonable approach when requirements are well defined.
- A useful approach when a customer cannot define requirements clearly.
- The best approach to use for projects with large development teams.
- A risky model that rarely produces a meaningful product.

B. A useful approach when a customer cannot define requirements clearly.

7

. The spiral model of software development

- Ends with the delivery of the software product.
- Is more chaotic than the incremental model.
- Includes project risks evaluation during each iteration
- All of the above

C. Includes project risks evaluation during each iteration

8

. The concurrent development model is

- Another name for concurrent engineering.

- Defines events that trigger engineering activity state transitions.
- Only used for development of parallel or distributed systems.
- Used whenever a large number of change requests are anticipated.
- Both a and b

E. Both a and b

9

. The component-based development model is

- Only appropriate for computer hardware design
- Not able to support the development of reusable components.
- Dependent on object technologies for support.
- Not cost effective by known quantifiable software metrics

C. Dependent on object technologies for support.

10

. The formal methods model of software development makes use of mathematical methods to

- Define the specification for computer-based systems
- Develop defect free computer-based systems.
- Verify the correctness of computer-based systems.
- All of the above.

D. All of the above.

11

. Which of these is not one of the phase names defined by the Unified Process model for software development?

- Inception phase
- Elaboration phase
- Construction phase
- Validation phase

D. Validation phase

12

. Which of these is not a characteristic of Personal Software Process?

- Emphasizes personal measurement of work product.
- Practitioner requires careful supervision by the project manager.
- Individual practitioner is responsible for estimating and scheduling.
- Practitioner is empowered to control quality of software work products.

B. Practitioner requires careful supervision by the project manager.

13

. Which of these are objectives of Team Software Process?

- Accelerate software process improvement
- Allow better time management by highly trained professionals
- Build self-directed software teams
- Show managers how to reduce costs and sustain quality
- Both b and c

E. Both b and c

14

. Process technology tools allow software organizations to compress schedules by skipping unimportant activities.

ANS: FALSE

15

. It is generally accepted that one cannot have weak software processes and create high quality end products.

ANS: TRUE

1

. It is not possible to build software that meets the customers' needs today and exhibits the quality characteristics that will enable it to be extended tomorrow.

- True
- False

2

. Which of the following traits need to exist among the members of an agile software team?

- Competence
- Decision-making ability
- Mutual trust and respect
- All of the above

D. All of the above

3

. What are the three framework activities for the Adaptive Software Development (ASD) process model?

- Analysis, design, coding
- Feasibility study, functional model iteration, implementation
- Requirements gathering, adaptive cycle planning, iterative development
- Speculation, collaboration, learning

D. Speculation, collaboration, learning

4

. Agility is nothing more than the ability of a project team to respond rapidly to change

ANS: FALSE

5

. Which of the following is not necessary to apply agility to a software process?

- Eliminate the use of project planning and testing
- Only essential work products are produced
- Process allows team to streamline tasks
- Uses incremental product delivery strategy

A. Eliminate the use of project planning and testing

6

. How do you create agile processes to manage unpredictability?

- Requirements gathering must be conducted very carefully
- Risk analysis must be conducted before planning takes place
- Software increments must be delivered in short time periods
- Software processes must adapt to changes incrementally
- Both c and d

E. Both c and d

7

. In agile software processes the highest priorities is to satisfy the customer through early and continuous delivery of valuable software.

- True
- False

8

. In agile development it is more important to build software that meets the customers' needs today than worry about features that might be needed in the future.

- True
- False

9

. What are the four framework activities found in the Extreme Programming (XP) process model?

- analysis, design, coding, testing
- planning, analysis, design, coding
- planning, analysis, coding, testing
- planning, design, coding, testing

D. planning, design, coding, testing

10

. All agile process models conform to a greater or lesser degree to the principles stated in the “Manifesto for Agile Software Development”.

- True
- False

11

. Which is not one of the key questions that is answered by each team member at each daily Scrum meeting?

- What did you do since the last meeting?
- What obstacles are you creating?
- What is the cause of the problem you are encountering?
- What do you plan to accomplish be the next team meeting?

B. What obstacles are you creating?

12

. The Dynamic Systems Development Method (DSDM) suggests a philosophy that is based on the Pareto principle (80% of the application can be delivered in 20% of the time required to build the complete application).

- True
- False

13

. Agile Modeling (AM) provides guidance to practitioner during which of these software tasks?

- Analysis
- Design
- Coding
- Testing

- Both a and b

E. Both a and b

14

. Agile Unified Process uses the classic UP phased activities (inception, elaboration, construction, transition) to help the team visualize the overall process flow

- True
- False

1

. Human aspects of software engineering are not relevant in today's agile process models.

ANS: FALSE

2

. Which of the following is not an important trait of an effective software engineer?

- Attentive to detail
- Brutally honest
- Follows process rule dogmatically
- Resilient under pressure

C. Follows process rule dogmatically

3

. Group communication and collaboration are as important as the technical skills of an individual team member to the success of a team.

ANS: TRUE

4

. Teams with diversity in the individual team member skill sets tend to be more effective than teams without this diversity

ANS: TRUE

5

. Which of the following can contribute to team toxicity?

- Frenzied work atmosphere
- Inadequate budget

- Poorly coordinated software process
- Unclear definition of team roles
- a, b, d

E. a, b, d

6

. Software engineering team structure is independent of problem complexity and size of the expected software products.

ANS: FALSE

7

. Agile teams are allowed to self-organize and make their own technical decisions.

ANS: TRUE

8

. In XP a metaphor is used as a device to facilitate communications among customers, team members, and managers?

ANS: TRUE

9

. Using an established social media platform negates the need to be concerned about privacy or security.

ANS: FALSE

10

. Use of cloud services can speed up information sharing among software team members?

ANS: TRUE

11

. In collaborative development environments, metrics are used to reward and punish team members.

ANS: FALSE

12

. Which of these factors complicate decision-making by global software teams

- Complexity of problem
- Different views of the problem

- Law of unintended consequences
- Risk associated with decision
- All of the above.

E. All of the above.

1

. Software engineers collaborate with customers to define which of the following?

- Customer visible usage scenarios
- Important software features
- System inputs and outputs
- All of the above

D. All of the above

2

. Everyone on the software team should be involved in the planning activity so that we can

- reduce the granularity of the plan
- analyze requirements in depth
- get all team members to "sign up" to the plan
- begin design

C. get all team members to "sign up" to the plan

3

. What role(s) do user stories play in agile planning?

- Define useful software features and functions delivered to end-users
- Determine a schedule used to deliver each software increment
- Provide a substitute to performing detailed scheduling of activities
- Used to estimate the effort required build the current increment
- both a and d

D. Used to estimate the effort required build the current increment

4

. Which of the following activities is not one of the four things that need to be accomplished by the generic planning task set?

- Develop overall project strategy
- Identify the functionality to deliver in each software increment
- Create a detailed schedule for the complete software project
- Devise a means of tracking progress on a regular basis

C. Create a detailed schedule for the complete software project

5

. Analysis models depict software in which three representations?

- architecture, interface, component
- cost, risk, schedule
- information, function, behavior
- None of the above

C. information, function, behavior

6

. The customer can directly observe both the difference between the internal quality of a design and its external quality?

ANS: FALSE

7

. Teams using agile software practices never create models.

ANS: FALSE

8

. Many of the tasks from the generic task sets for analysis modeling and design can be conducted in parallel with one another.

ANS: TRUE

9

. A successful test is one that discovers at least one as-yet undiscovered error.

ANS: TRUE

10

. Which of the following are tasks in the generic task set for construction?

- Build a software component
- Create a user interface
- Unit test the component
- Assess the quality of the component
- both a and c

E. both a and c

11

. Software engineering principles have about a three year half-life

ANS: FALSE

12

. Which of the following is not one of core principles of software engineering practice?

- All design should be as simple as possible, but no simpler
- A software system exists only to provide value to its users.
- Pareto principle (20% of any product requires 80% of the effort).
- Remember that you produce others will consume

C. Pareto principle (20% of any product requires 80% of the effort).

13

. Every communication activity should have a facilitator to make sure that the customer is not allowed to dominate the proceedings

ANS: FALSE

14

. The agile view of iterative customer communication and collaboration is applicable to all software engineering practice.

ANS: TRUE

15

. One reason to involve everyone on the software team in the planning activity is to

- adjust the granularity of the plan
- control feature creep
- get all team members to “sign up” to the plan
- understand the problem scope

C. get all team members to “sign up” to the plan

16

. Project plans should not be changed once they are adopted by a team

ANS:FALSE

17

. Requirements models depict software in which three domains?

- architecture, interface, component
- cost, risk, schedule
- information, function, behavior

- None of the above

C. information, function, behavior

18

. The design model should be traceable to the requirements model?

ANS: TRUE

19

. Teams using agile software practices do not generally create models

ANS: FALSE

20

. Which of the following is not one of the principles of good coding?

- Create unit tests before you begin coding
- Create unit tests before you begin coding
- Refactor the code after you complete the first coding pass
- Write self-documenting code, not program documentation

C. Refactor the code after you complete the first coding pass

21

. A successful test is ones that discovers at least one as-yet undiscovered error

ANS: TRUE

22

. Which of the following are valid reasons for collecting customer feedback concerning delivered software?

- Allows developers to make changes to the delivered increment
- Delivery schedule can be revised to reflect changes
- Developers can identify changes to incorporate into next increment
- All of the above

D. All of the above

23

. Larger programming teams are always more productive than smaller teams

ANS: FALSE

1

. Software engineers do not need to consider hardware when designing a computer-based system.

ANS: FALSE

2

. Which of the following can be elements of computer-based systems?

- documentation
- software
- people
- hardware
- all of the above

E. all of the above

3

. The system engineering process usually begins with the

- detailed view
- domain view
- element view
- world view

D. world view

4

. To construct a system model the engineer should consider which of the following restraining factors?

- assumptions
- budget
- constraints
- schedule
- both a and c

E. both a and c

5

. By following modern system engineering practices simulation of reactive systems is no longer necessary.

ANS: FALSE

6

. During business process engineering, three different architectures are examined.

- applications, data, technology infrastructure
- communications, organization, financial infrastructure
- network, database, reporting structure
- systems, requirements, data structure

A. applications, data, technology infrastructure

7

. Which elements of business processing engineering are the responsibilities of the software engineer?

- business area analysis
- business system design
- construction and integration
- information strategy planning
- both b and c

E. both b and c

8

. The goal of product engineering is to translate the customer's desire for a set of defined capabilities into a working product.

ANS: TRUE

9

. The architecture components for product engineering are

- data, hardware, software, people
- data, documentation, hardware, software
- data, hardware, software, procedures
- documentation, hardware, people, procedures

A. data, hardware, software, people

10

. The top level of the hierarchical model of a system is known as the

ANS: **SCD**

11

. The system model template contains which of the following elements

- input

- output
- user interface
- all of the above

D. all of the above

12

. UML notations that can be used to model the hardware and software elements of a system are

- Activity diagrams
- Class diagrams
- Deployment diagrams
- Use-case diagrams
- a, b, and c

E. a, b, and c

1

. It is relatively common for different customers to propose conflicting requirements, each arguing that his or her version is the right one.

ANS: TRUE

2

. The system specification describes the

- Function, performance and constraints of a computer-based system
- implementation of each allocated system
- element software architecture
- time required for system simulation

A. Function, performance and constraints of a computer-based system

3

. The best way to conduct a requirements validation review is to

- examine the system model for errors
- have the customer look over the requirements
- send them to the design team and see if they have any concerns
- use a checklist of questions to examine each requirement

D. use a checklist of questions to examine each requirement

4

. The use of traceability tables helps to

- debug programs following the detection of run-time errors
- determine the performance of algorithm implementations
- identify, control, and track requirements changes
- none of the above

C. identify, control, and track requirements changes

5

. The job of the requirements engineer is to categorize all stakeholder information in a way that allows decision makers to choose an internally consistent set of requirements.

ANS:TRUE

6

. The nature of collaboration is such that all system requirements are defined by consensus of a committee of customers and developers.

ANS: FALSE

7

. Which of following is not a UML diagram used creating a system analysis model?

- activity diagram
- class diagram
- dataflow diagram
- state diagram

C. dataflow diagram

8

. Requirements engineering is a generic process that does not vary from one software project to another.

ANS: TRUE

9

. During project inception the intent of the tasks are to determine

- basic problem understanding
- nature of the solution needed
- people who want a solution
- none of the above
- a, b, c

E. a, b, c

10

. Three things that make requirements elicitation difficult are problems of

- budgeting
- scope
- understanding
- volatility
- b, c, d

E. b, c, d

11

. A stakeholder is anyone who will purchase the completed software system under development

ANS: FALSE

12

. It is relatively common for different customers to propose conflicting requirements, each arguing that his or her version is the right one.

ANS: TRUE

13

. Which of the following is not one of the context-free questions that would be used during project inception?

- What will be the economic benefit from a good solution?
- Who is behind the request for work?
- Who will pay for the work?
- Who will use the solution?

C. Who will pay for the work?

14

. Non-functional requirements can be safely ignored in modern software development projects

ANS: FALSE

15

. In collaborative requirements gathering the facilitator

- arranges the meeting place
- can not be a customer
- controls the meeting
- must be an outsider

C. controls the meeting

16

. Which of the following is not one of the requirement classifications used in Quality Function Deployment (QFD)?

- exciting
- expected
- mandatory
- normal

C. mandatory

17

. The work products produced during requirement elicitation will vary depending on the

- size of the budget
- size of the product being built.
- software process being used.
- stakeholders needs.
- both a and b

E. both a and b

18

. User stories are complete descriptions the user needs and include the non-functional requirements for a software increment.

ANS: TRUE

19

. Developers and customers create use-cases to help the software team understand how different classes of end-users will use functions.

ANS: TRUE

20

. Use-case actors are always people, never system devices.

ANS: FALSE

21

. The result of the requirements engineering task is an analysis model that defines which of the following problem domain(s)?

- information
- functional
- behavioral

- all of the above

D. all of the above

22

. Analysis patterns facilitate the transformation of the analysis model into a design model by suggesting reliable solutions to common problems.

ANS: TRUE

23

. In agile process models requirements engineering and design activities are interleaved.

ANS: TRUE

24

. In win-win negotiation, the customer's needs are met even though the developer's need may not be.

ANS: FALSE

25

. In requirements validation the requirements model is reviewed to ensure its technical feasibility

ANS: FALSE

26

. The most common reason for software project failure is lack of functionality

ANS: FALSE

1

. The data dictionary contains descriptions of each software

- control item
- data object
- diagram
- notation
- both a and b

E. both a and b

2

. Which of these is not an element of an object-oriented analysis model?

- Behavioral elements
- Class-based elements
- Data elements
- Scenario-based elements

C. Data elements

3

. In analysis models the only data objects that need representation are those that will be implemented using software classes.

ANS: FALSE

4

. The values that are assigned to an object's attributes make that object unique.

ANS: TRUE

5

. The relationships shown in a data model must be classified to show their

- cardinality
- directionality
- modality
- probability
- both a and c

E. both a and c

6

. The entity relationship diagram

- depicts relationships between data objects
- depicts functions that transform the data flow
- indicates how data are transformed by the system
- indicates system reactions to external events

A. depicts relationships between data objects

7

. A generalized description of a collection of similar objects is a

- class
- instance
- subclass
- super class

A. class

8

. Operations are object procedures that are invoked when an object receives a message

ANS: TRUE

9

. The data flow diagram

- depicts relationships between data objects
- depicts functions that transform the data flow
- indicates how data are transformed by the system
- indicates system reactions to external events
- both b and c

E. both b and c

10

. Attributes cannot be defined for a class until design has been completed.

ANS: FALSE

11

. Events occur whenever a(n)

- actor and the OO system exchange information
- class operation is invoked
- messages are passed between objects
- all of the above

A. actor and the OO system exchange information

12

. The state diagram

- depicts relationships between data objects
- depicts functions that transform the data flow
- indicates how data are transformed by the system
- indicates system reactions to external events

D. indicates system reactions to external events

1

. One or more attributes of a data object must be defined as a key to allow the location of an instance of the data object.

ANS: TRUE

2

. The entity relationship diagram

- Depicts relationships between data objects
- Depicts functions that transform the data flow
- Indicates how data are transformed by the system
- Indicates system reactions to external events

A. Depicts relationships between data objects

3

. Which of the following should be considered as candidate objects in a problem space?

- Events
- People
- Structures
- all of the above

D. all of the above

4

. Attributes are chosen for an object by examining the problem statement and identifying the entities that appear to be related

ANS: FALSE

5

. Which of the following is not one of the broad categories used to classify operations?

- Computation
- Data manipulation
- Event monitors
- Transformers

D. Transformers

6

. Which of the following items does not appear on a CRC card?

- Class collaborators
- Class name

- Class reliability
- Class responsibilities

C. Class reliability

7

. Class responsibilities are defined by

- Its attributes only
- its collaborators
- its operations only
- Both its attributes and operations

D. Both its attributes and operations

8

. An analysis package involves the categorization of analysis model elements into useful groupings.

ANS: TRUE

9

. Which of these is not an element of a requirements model?

- Behavioral elements
- Class-based elements
- Data elements
- Scenario-based elements

C. Data elements

10

. Which of the following is not an objective for building a requirements model?

- define set of software requirements that can be validated
- describe customer requirements
- develop an abbreviated solution for the problem
- establish basis for software design

C. develop an abbreviated solution for the problem

11

. Object-oriented domain analysis is concerned with the identification and specification of reusable capabilities within an application domain.

ANS: TRUE

12

. In structured analysis models focus on the structure of the classes defined for a system along with their interactions.

ANS: FALSE

13

. Creation and refinement of use cases is an important part of scenario-based modeling.

ANS: TRUE

14

. It is important to consider alternative actor interactions when creating a preliminary use case.

ANS: FALSE

15

. Brainstorming is one technique that may be used to derive a complete set of use case exceptions.

ANS: TRUE

16

. In many cases there is no need to create a graphical representation of a usage scenario.

ANS: TRUE

17

. UML activity diagrams are useful in representing which analysis model elements?

- Behavioral elements
- Class-based elements
- Flow-based elements
- Scenario-based elements

D. Scenario-based elements

18

. UML swimmlane diagrams allow you to represent the flow of activities by showing the actors having responsibility for creating each data element.

ANS: FALSE

1

. Which of the following should be considered as candidate objects in a problem space?

- events
- people
- structures
- all of the above

D. all of the above

2

. In the grammatical parse of a processing narrative the nouns become object candidates in the analysis model.

ANS:TRUE

3

. Attributes are chosen for an object by examining the problem statement and identifying the entities that appear to be related.

ANS: FALSE

4

. Which of the following is not one of the broad categories used to classify operations?

- computation
- data manipulation
- event monitors
- transformers

D. transformers

5

. Collaborators in CRC modeling are those classes needed to fulfill a responsibility on another card.

ANS: TRUE

6

. Which of the following items does not appear on a CRC card?

- class collaborators
- class name
- class reliability
- class responsibilities

C. class reliability

7

. Class responsibilities are defined by

- its attributes only
- its collaborators
- its operations only
- both its attributes and operations

D. both its attributes and operations

8

. A stereotype is the basis for class reuse in UML modeling.

ANS: FALSE

9

. An analysis package involves the categorization of analysis model elements into useful groupings.

ANS: TRUE

1

. The data flow diagram

- Depicts relationships between data objects
- Depicts functions that transform the data flow
- Indicates how data are transformed by the system
- Indicates system reactions to external events
- Both b and c

E. Both b and c

2

. Control flow diagrams are

- Needed to model event driven systems
- Required for all systems
- Used in place of data flow diagrams.
- Used to represent system behavior.

A. Needed to model event driven systems

3

. The control specification represents the system behavior using UML sequence and state diagrams

ANS: TRUE

4

. The data flow diagram must be augmented by min-spec that can serve as a guide the design of the software component that will implement the process

ANS: TRUE

5

. The behavior modeling is only used in the analysis of real-time systems.

ANS: FALSE

6

. For purposes of behavior modeling an event occurs whenever

- a state and process exchange information.
- the system an actor exchange information.
- two actors exchange information.
- two objects exchange information.

B. the system an actor exchange information.

7

. For purposes of behavior modeling a state is any

- consumer or producer of data
- data object hierarchy
- observable mode of behavior.
- well defined process.

C. observable mode of behavior.

8

. The state transition diagram

- depicts relationships between data objects
- depicts functions that transform the data flow
- indicates how data are transformed by the system
- indicates system reactions to external events

D. indicates system reactions to external events

9

. The UML sequence diagram shows the order in which system events are processed.

ANS: FALSE

10

. Analysis patterns are discovered, they are not explicitly created.

ANS: TRUE

11

. It is not possible to justify the time required for mobile app requirements analysis.

ANS: FALSE

12

. Which is not one of the analysis activities that is used to create a complete analysis model?

- Configuration analysis
- Content analysis
- Functional analysis
- Market analysis

D. Market analysis

13

. Content objects are extracted from use cases by examining the scenario description for direct or indirect content references

ANS: TRUE

14

. What are the elements of a WebApp interaction model?

- activity diagrams, sequence diagrams, state diagrams, interface prototype
- activity diagrams, collaboration diagrams, sequence diagrams, state diagrams
- use-cases, sequence diagrams, state diagrams, interface prototype
- use-cases, sequence diagrams, state diagrams, sequence diagrams

C. use-cases, sequence diagrams, state diagrams, interface prototype

15

. UML activity diagrams can be used to represent the user observable functionality delivered by the WebApp as well as the operations contained in each analysis class.

ANS: TRUE

16

. Configuration analysis focuses on the architecture of the user's web browsing environment.

ANS: FALSE

1

. Which of the following are areas of concern in the design model?

- architecture
- data
- interfaces
- project scope
- a, b, c

E. a, b, c

2

. The importance of software design can be summarized in a single word

- accuracy
- complexity
- efficiency
- quality

D. quality

3

. Which of these are characteristics of a good design?

- exhibits strong coupling between its modules
- implements all requirements in the analysis model
- includes test cases for all components
- provides a complete picture of the software
- b and d

E. b and d

4

. Which of the following is not a characteristic common to all design methods?

- configuration management
- functional component representation
- quality assessment guidelines

- refinement heuristics

A. configuration management

5

. What types of abstraction are used in software design?

- control
- data
- environmental
- procedural
- a, b, d

E. a, b, d

6

. Which of the following can be used to represent the architectural design of a piece of software?

- Dynamic models
- Functional models
- Structural models
- All of the above

D. All of the above

7

. Design patterns are not applicable to the design of object-oriented software?

ANS: FALSE

8

. Since modularity is an important design goal it is not possible to have too many modules in a proposed design.

ANS: FALSE

9

. Information hiding makes program maintenance easier by hiding data and procedure from unaffected parts of the program

ANS: TRUE

10

. Cohesion is a qualitative indication of the degree to which a module

- can be written more compactly
- focuses on just one thing.
- is able to complete its function in a timely manner.
- is connected to other modules and the outside world.

B. focuses on just one thing.

11

. Coupling is a qualitative indication of the degree to which a module

- can be written more compactly
- focuses on just one thing.
- is able to complete its function in a timely manner
- is connected to other modules and the outside world.

D. is connected to other modules and the outside world.

12

. When using structured design methodologies the process of stepwise refinement is unnecessary.

ANS: FALSE

13

. Software designs are refactored to allow the creation of software that is easier to integrate, easier to test, and easier to maintain.

ANS: TRUE

14

. Which of the following is not one of the five design class types

- Business domain classes
- Entity classes
- Process classes
- User interface classes

B. Entity classes

15

. Which design model elements are used to depict a model of information represented from the user's view?

- Architectural design elements
- Component-level design elements
- Data design elements

- Interface design elements

C. Data design elements

16

. Which design is equivalent to the floor plan of a house?

- Architectural design
- Component-level design
- Data design
- Interface design

A. Architectural design

17

. Which design model is equivalent to the detailed drawings of the access points and external utilities for a house?

- Architectural design
- Component-level design
- Data design
- Interface design

D. Interface design

18

. Which design model is equivalent to a set of detailed drawings for each room in a house?

- Architectural design
- Component-level design
- Data design
- Interface design

B. Component-level design

19

. The deployment design elements specify the build order for the software components.

ANS: FALSE

1

. The best representation of system architecture is an operational software prototype

ANS: FALSE

2

. The architectural representations can be an enabler for communication among project stakeholders

ANS: TRUE

3

. An architectural description is often documented using an architecture template.

ANS: FALSE

4

. An architectural decision is often documented using an architecture decision description template.

ANS: TRUE

5

. An architectural genre will often dictate the architectural approach that may be used for the structure to be built.

ANS: TRUE

6

. An architectural style encompasses which of the following elements?

- constraints
- set of components
- semantic models
- syntactic models
- a, b, c

E. a, b, c

7

. To determine the architectural style or combination of styles that best fits the proposed system, requirements engineering is used to uncover

- algorithmic complexity
- characteristics and constraints
- control and data
- design patterns

B. characteristics and constraints

8

. Before an architectural pattern can be chosen for use in a specific system it must have a code implementation to facilitate its reuse.

ANS: FALSE

9

. The criteria used to assess the quality of an architectural design should be based on system

- accessibility
- control
- data
- implementation
- b and c

E. b and c

10

. Software architectural considerations often interact with each other and moderate each other.

ANS: TRUE

11

. Developer notes are not a reliable means of documenting architectural decisions

ANS: FALSE

12

. During process of modeling the system in context, systems that interact with the target system are represented as

- Peer-level systems
- Subordinate systems
- Superordinate systems
- Working systems
- a, b, c

E. a, b, c

13

. Once selected, archetypes always need to be refined further as architectural design proceeds

ANS: TRUE

14

. Which of the following is not an example of infrastructure components that may need to be integrated into the software architecture?

- Communications components
- Database components
- Interface components
- Memory management components

C. Interface components

15

. In the architecture trade-off analysis method the architectural style should be described using the

- data flow view
- module view
- process view
- user view
- a, b, c

E. a, b, c

16

. A useful technique for evaluating the overall complexity of a proposed architecture is to look at the component

- cohesion
- flow dependencies
- sharing dependencies
- size
- b and c

E. b and c

17

. Software architects need to create consensus among software team members and other stakeholders.

ANS: TRUE

18

. Pattern-based architectural reviews can be useful for project with short build cycles and volatile requirements.

ANS: TRUE

19

. Static architectural conformance checking assesses whether or not the source code matches the user visible requirements

ANS: FALSE

20

. Architectural design has no role in agile software process models.

ANS: FALSE

1

. In the context of object-oriented software engineering a component contains

- attributes and operations
- instances of each class
- roles for each actor (device or user)
- set of collaborating classes

D. set of collaborating classes

2

. In traditional software engineering modules must serve in which of the following roles?

- Control component
- Infrastructure component
- Problem domain component
- All of the above

D. All of the above

3

. Software engineers always need to cerate components from scratch in order to meet customer expectations fully.

ANS: FALSE

4

. Which of the following is not one of the four principles used to guide component-level design?

- Dependency Inversion Principle
- Interface Segregation Principle
- Open-Closed Principle
- Parsimonious Complexity Principle

D. Parsimonious Complexity Principle

5

. The use of stereotypes can help identify the nature of components at the detailed design level.

ANS: TRUE

6

. Classes and components that exhibit functional, layer, or communicational cohesion are relatively easy to implement, test, and maintain.

ANS: TRUE

7

. Software coupling is a sign of poor architectural design and can always be avoided in every system.

ANS: FALSE

8

. In component design elaboration requires which of the following elements to be describe in detail?

- Algorithms
- Attributes
- Interfaces
- Operations
- b, c, d

E. b, c, d

9

. In component-level design persistent data sources refer to

- Component libraries
- Databases
- Files
- All of the above
- b and c

E. b and c

10

. WebApp content design at the component level focuses on content objects and the manner in which they interact.

ANS: FALSE

11

. A WebApp functional architecture describes the key functional components and how they interact with each other.

ANS: TRUE

12

. Component-level design for mobile apps is not any different from component-based design for Web apps.

ANS: TRUE

13

. Which of these constructs is used in structured programming?

- branching
- condition
- repetition
- sequence
- b, c, d

E. b, c, d

14

. In component-based software engineering, the development team examines the requirements to see which are amenable to composition, rather than construction, before beginning detailed design tasks.

ANS: TRUE

15

. Which of the following is not one of the major activities of domain engineering?

- analysis
- construction
- dissemination
- validation

D. validation

16

. Which of the following factors would not be considered during component qualification?

- application programming interface (API)
- development and integration tools required
- exception handling
- testing equipment required

D. testing equipment required

17

. Which is the following is a technique used for component wrapping?

- black-box wrapping
- clear-box wrapping
- gray-box wrapping
- white-box wrapping

B. clear-box wrapping

18

. Which of the following is not one of the issues that form a basis for design for reuse?

- object-oriented programming
- program templates
- standard data
- standard interface protocols

A. object-oriented programming

19

. In a reuse environment, library queries are often characterized using the _____ element of the 3C Model.

- concept
- content
- context
- all of the above

D. all of the above

20

. Which of these is a graphical notation for depicting procedural detail?

- Box diagram
- Decision table
- ER diagram
- Flowchart

D. Flowchart

21

. A decision table should be used

- To document all conditional statements
- To guide the development of the project management plan
- Only when building an expert system
- When a complex set of conditions and actions appears in a component

D. When a complex set of conditions and actions appears in a component

22

. A program design language (PDL) is often a

- Combination of programming constructs and narrative text
- Legitimate programming language in its own right
- Machine readable software development language
- Useful way to represent software architecture

A. Combination of programming constructs and narrative text

23

. In the most general sense a component is a modular building block for computer software.

ANS: TRUE

1

. Which of the following interface design principles does not allow the user to remain in control of the interaction with a computer?

- allow interaction to interruptible
- allow interaction to be undoable
- hide technical internals from casual users
- only provide one rigidly defined method for accomplishing a task

D. only provide one rigidly defined method for accomplishing a task

2

. Which of the following interface design principles reduce the user's memory load?

- define intuitive shortcuts
- disclose information in a progressive fashion
- establish meaningful defaults
- provide an on-line tutorial
- a, b, c

E. a, b, c

3

. The reason for reducing the user's memory load is make his or her interaction with the computer quicker to complete.

ANS: FALSE

4

. Interface consistency implies that

- each application should have its own distinctive look and feel
- input mechanisms remain the same throughout the application
- navigational methods are context sensitive
- visual information is organized according to a design standard
- b and d

E. b and d

5

. If past interactive models have created certain user expectations it is not generally good to make changes to the model.

ANS: TRUE

6

. Which model depicts the profile of the end users of a computer system?

- design model
- implementation model
- user model
- user's model

C. user model

7

. Which model depicts the image of a system that an end user creates in his or her head?

- design model
- user model
- system model
- system perception

D. system perception

8

. Which model depicts the look and feel of the user interface along with all supporting information?

- implementation model
- user model
- user's model
- system perception

A. implementation model

9

. Which of these framework activities is not normally associated with the user interface design processes?

- cost estimation
- interface construction
- interface validation
- user and task analysis

A. cost estimation

10

. Which approach(es) to user task analysis can be useful in user interface design?

- have users indicate their preferences on questionnaires
- rely on the judgement of experienced programmers
- study existing computer-based solutions
- observe users performing tasks manually
- c and d

E. c and d

11

. Object-oriented analysis techniques can be used to identify and refine user task objects and actions without any need to refer to the user voice.

ANS: FALSE

12

. The computer's display capabilities are the primary determinant of the order in which user interface design activities are completed.

ANS: FALSE

13

. It is sometimes possible that the interface designer is constrained by environmental factors that mitigate against ease of use for many users

ANS: TRUE

14

. One means of defining user interface objects and actions is to conduct a grammatical parse of the user scenario.

ANS: TRUE

15

. Interface design patterns typically include a complete component-level design (design classes, attributes, operations, and interfaces).

ANS: TRUE

16

. Several common design issues surface for almost every user interface including

- adaptive user profiles
- error handling
- resolution of graphics displays
- system response time
- b and d

E. b and d

17

. It is more important to capture the user's attention with flashy features than ergonomically sound screen layouts when building a WebApp.

ANS: FALSE

18

. Several usability measures can be collected while observing users interacting with a computer system including

- down time for the application
- number of user errors
- software reliability
- time spent looking at help materials
- b and d

E. b and d

1

. Which of the following is not one of the elements of a design pattern?

- context
- environment

- problem
- solution

B. environment

2

. RubberNecking is an example of a classic generative pattern.

ANS: FALSE

3

. A frame work is a reusable mini-architecture that serves as a foundation which other design patterns can be applied?

ANS: TRUE

4

. Finding patterns built by others that address design problems is often more difficult than recognizing patterns in the application to be built.

ANS: TRUE

5

. A pattern language

- encompasses a collection of patterns
- is implemented using hypertext
- resembles the structure of natural languages
- None of the above

A. encompasses a collection of patterns

6

. The concepts and techniques discussed for _____ can be used in conjunction with a pattern-based approach.

- Architectural design
- Component-level design
- User interface design
- All of the above

D. All of the above

7

. It is important to reduce the coupling among design patterns so that they can be treated as independent entities

ANS:FALSE

8

. Real life design solutions may not always lend themselves to a top-down approach.

ANS: TRUE

9

. Which of the following problem types are used to label columns in a pattern organizing table?

- Business
- Context
- Database
- Infrastructure
- c and d

E. c and d

10

. Most mistakes in pattern-based design can be avoided by judicious use of review techniques.

ANS: TRUE

11

. Before choosing an architectural design pattern it must be assessed for its appropriateness to the application and overall architectural style.

ANS: TRUE

12

. Unlike architectural patterns, component-level design patterns may be applied to solve subproblems without regard to system context.

ANS: FALSE

13

. Most user interface design patterns fall with in one of ____ categories of patterns.

ANS: 10

14

. WebApp design patterns can be classified by considering which of the dimensions listed below?

- Aesthetics

- Design focus
- Granularity
- Usability
- b and c

E. b and c

15

. Which of the following are levels of design focus that can be used to categorize WebApp patterns?

- Behavioral patterns
- Functional patterns
- Layout patterns
- Navigation patterns
- b and d

E. b and d

16

. Which of the levels of granularity that can be used to describe WebApp patterns?

- Architectural patterns
- Component patterns
- Design patterns
- Interactions patterns
- a, b, c

E. a, b, c

17

. Mobile app user interface patterns can be represented as a collection of best of breed screen images.

ANS: TRUE

1

. Which of the following characteristics should not be used to assess the quality of a WebApp?

- aesthetics
- reliability
- maintainability
- usability

A. aesthetics

2

. Which of the following are design goals for every WebApp?

- Simplicity
- Consistency
- Navigability
- Visual appeal
- All of the above.

E. All of the above.

3

. Which of the following not part of the design pyramid for WebE design?

- Architectural design
- Business case design
- Content design
- Navigation design

B. Business case design

4

. With WebApps content is everything, a poorly defined user interface will be quickly overlooked by frequent users.

ANS: FALSE

5

. Which of these are WebApp interaction mechanisms?

- Graphic icons
- Graphic images
- Navigation menus
- All of the above

D. All of the above

6

. Screen layout design has several widely accepted standards based on human factors research

ANS: FALSE

7

. Graphic design considers every aspect of the look and feel of a WebApp.

ANS: TRUE

8

. Content design is conducted by

- Copywriters and graphic designer
- Web engineers
- both a and b
- none of the above

C. both a and b

9

. Content objects have both information attributes defined during analysis and implementation specific attributes specified during design.

ANS: TRUE

10

. Content objects are not normally chunked into Web pages until the implementation activities begin.

ANS: FALSE

11

. Content architecture and WebApp architecture are pretty much the same thing for many WebApps?

ANS: FALSE

12

. Which of the following is not one of the content architectural structures used by web engineers?

- linear
- grid
- hierarchical
- parallel

D. parallel

13

. MVC is a three layer architecture that contains a

- machine, view, content objects
- model, view, and content objects
- model, view, and controller

- machine, view, controller

C. model, view, and controller

14

. Web navigational design involves creating a semantic navigational unit for each goal associated with each defined user role

ANS: TRUE

15

. To allow the user to feel in control of a WebApp, it is a good idea to mix both horizontal and vertical navigation mechanisms on the same page.

ANS: FALSE

16

. Component level design for WebApps is very similar to component level design for other software delivery environments.

ANS: TRUE

17

. Which of these is not one of the design activities associated with object-oriented hypermedia design?

- abstract interface design
- conceptual design
- content design
- navigational design

C. content design

18

. UML does not have any representation schemas that are useful in building WebApp design models

ANS: FALSE

1

. MobileApps must be designed take intermittent connectivity outages

ANS: TRUE

2

. Modern electronics allow developers to ignore the power demands made by a MobileApp.

ANS: FALSE

3

. A MobileApp is assessed for usability and accessibility before beginning the next increment begins.

ANS: TRUE

4

. Which of the following characteristics should not be used to assess the quality of a MobileApp?

- aesthetics
- reliability
- maintainability
- usability

A. aesthetics

5

. Quality function deployment is not necessary when implementing MobileApp user stories?

ANS: FALSE

6

. Using highly adaptive contextual interfaces is a good way to deal with device limitations like screen size.

ANS: TRUE

7

. Which of the following are common MobileApp design mistakes.

- Inconsistency
- Interoperability
- Lean design
- Overdesigning
- a and d

E. a and d

8

. It is better to multiple short pages than long scrolling forms when implementing mobile device user interfaces.

ANS: FALSE

9

. Java is the best programming language to use when you want to create portable MobileApps

ANS: FALSE

10

. Service computing allows you to avoid the need to integrate service source code into the mobile device client.

ANS: TRUE

11

. The most important MobileApp architecture decision whether to build a thin or fat mobile client.

ANS: TRUE

1

. Variation control in the context of software engineering involves controlling variation in the

- process applied
- resources expended
- product quality attributes
- all of the above

D. all of the above

2

. There is no need to assess customer satisfaction when trying to determine the quality of a piece of software.

ANS: FALSE

3

. A key concept of quality control is that all work products

- are delivered on time and under budget
- have complete documentation
- have measurable specifications for process outputs
- are thoroughly tested before delivery to the customer

C. have measurable specifications for process outputs

4

. Quality costs may be divided into costs associated with

- prevention, appraisal, and failure
- people, process, and product
- customers, developers, and maintenance
- all of the above

A. prevention, appraisal, and failure

5

. Poka-yoke devices are mechanisms that lead to the

- creation of quality processes with minimal resources
- determining causes of software defects
- prevention of potential quality problems
- rapid detection of quality problems introduced
- both c and d

E. both c and d

6

. Quality of conformance focuses on the degree to which the implementation of a design meets its requirements and performance goals

ANS: TRUE

7

. Which of the following is not one of the attributes of software quality?

- Adds value for developers and users
- Effective software process creates infrastructure
- Removes need to consider performance issues
- Useful products satisfy stakeholder requirements

C. Removes need to consider performance issues

8

. Product quality can only be assessed by measuring hard quality factors.

ANS: TRUE

9

. Many software metrics can only be measured indirectly.

ANS: TRUE

10

. Which of the following are ISO 9126 software quality factors?

- Functionality
- Portability
- Reliability
- Visual appeal
- a, b, c

E. a, b, c

11

. Developers need to create a collection of targeted questions to asses each quality factor.

ANS: TRUE

12

. Software metrics represent direct measures of some manifestation of quality.

ANS: FALSE

13

. The quality dilemma might be summarized as choosing between building things quickly or building things correctly.

ANS: FALSE

14

. Good enough software delivers high quality software functions along with specialized functions that contain known bugs.

ANS: TRUE

15

. Which of the following is likely to be the most expensive cost of quality?

- Appraisal costs
- External failure costs
- Internal failure costs
- Prevention costs

B. External failure costs

16

. Poor quality leads to software risks that can become serious?

ANS: TRUE

17

. When a system fails to deliver required functions it is because the customer changes requirements?

ANS: FALSE

18

. Developers must start focusing on quality during the design phase in order to build secure systems.

ANS: TRUE

19

. Which of the following management decisions have the potential to impact software quality?

- Estimation decisions
- Risk-oriented decisions
- Scheduling decisions
- All of the above

D. All of the above

20

. The project plan should include explicit techniques for _____ and _____ management?

- change
- cost
- error
- quality
- a and d

E. a and d

21

. Quality control encompasses a set of software engineering actions that help to ensure that each work product meets its quality goals

ANS: TRUE

22

. The goal of quality assurance to insure that a software project is error free

ANS: FALSE

1

. The purpose of software reviews is to uncover errors and defects in work products so they can be removed before moving on to the next phase of development.

ANS: TRUE

2

. In general the earlier a software defect is discovered and corrected the less costly to the overall project budget.

ANS: TRUE

3

. Defect amplification models can be used to illustrate the costs associated with using software from its initial deployment to its retirement

ANS: FALSE

4

. Review metrics can be used to assess the efficacy of each review activity.

ANS: TRUE

5

. Defect density can be estimated for any software engineering work product.

ANS: TRUE

6

. Agile software developers are aware that software reviews always take time without saving any.

ANS: FALSE

7

. The level of review formality is determined by which of the following?

- amount of preparation
- reviewer follow-up
- size of project budget
- structure of review
- a, b, d

E. a, b, d

8

. An informal review may consist of which of the following?

- casual meeting
- desk check
- inspection
- pair programming
- a and b

E. a and b

9

. Which of the following are objectives for formal technical reviews?

- allow senior staff members to correct errors
- assess programmer productivity
- determining who introduced an error into a program
- uncover errors in software work products

D. uncover errors in software work products

10

. At the end of a formal technical review all attendees can decide to

- accept the work product without modification
- modify the work product and continue the review
- reject the product due to stylistic discrepancies
- reject the product due to severe errors
- a and d

E. a and d

11

. A review summary report answers which three questions?

- terminate project, replace producer, request a time extension
- what defects were found, what caused defects, who was responsible
- what was reviewed, who reviewed it, what were the findings
- none of the above

C. what was reviewed, who reviewed it, what were the findings

12

. In any type of technical review, the focus of the review is on the product and not the producer

ANS: TRUE

13

. Sample driven reviews only make sense for very small software development projects.

ANS: FALSE

1

. Software quality might be defined as conformance to explicitly stated requirements and standards, nothing more and nothing less.

ANS: FALSE

2

. People who perform software quality assurance must look at the software from the customer's perspective.

ANS: TRUE

3

. The elements of software quality assurance consist of reviews, audits, and testing.

ANS: FALSE

4

. Which of these activities is not one of the activities recommended to be performed by an independent SQA group?

- prepare SQA plan for the project
- review software engineering activities to verify process compliance
- report any evidence of noncompliance to senior management
- serve as the sole test team for any software produced

D. serve as the sole test team for any software produced

5

. Metrics can be used to indicate the relative strength of a software quality attribute.

ANS: TRUE

6

. Attempts to apply mathematical proof to demonstrate that a program conforms to its specifications are doomed to failure.

ANS: FALSE

7

. Statistical quality assurance involves

- using sampling in place of exhaustive testing of software
- surveying customers to find out their opinions about product quality
- tracing each defect to its underlying cause, isolating the "vital few" causes, and moving to correct them
- tracing each defect to its underlying causes and using the Pareto principle to correct each problem found

C. tracing each defect to its underlying cause, isolating the "vital few" causes, and moving to correct them

8

. Six Sigma methodology defines three core steps.

- analyze, improve, control
- analyze, design, verify
- define, measure, analyze
- define, measure, control

C. define, measure, analyze

9

. Software reliability problems can almost always be traced to

- errors in accuracy
- errors in design
- errors in implementation
- errors in operation
- b and c

E. b and c

10

. Software safety is a quality assurance activity that focuses on hazards that

- affect the reliability of a software component
- may cause an entire system to fail
- may result from user input errors
- prevent profitable marketing of the final product

B. may cause an entire system to fail

11

. The ISO quality assurance standard that applies to software engineering is

- ISO 9000
- ISO 9001

- ISO 9002
- ISO 9003

B. ISO 9001

12

. Which of the following is not a section in the standard for SQA plans recommended by IEEE?

- budget
- documentation
- reviews and audits
- test

A. budget

1

. Comparison testing is typically done to test two competing products as part of customer market analysis prior to product release

ANS: FALSE

2

. Test case design "in the small" for OO software is driven by the algorithmic detail of the individual operations.

ANS: TRUE

3

. Deep structure testing is not designed to

- examine object behaviors
- exercise communication mechanisms
- exercise object dependencies
- exercise structure observable by the user

D. exercise structure observable by the user

4

. In software quality assurance work there is no difference between software verification and software validation.

ANS: FALSE

5

. The best reason for using Independent software test teams is that

- software developers do not need to do any testing
- strangers will test the software mercilessly
- testers do not get involved with the project until testing begins
- the conflicts of interest between developers and testers is reduced

D. the conflicts of interest between developers and testers is reduced

6

. What is the normal order of activities in which traditional software testing is organized?

- integration testing, system testing, unit testing, validation testing.
- unit testing, validation testing, system testing, integration testing
- unit testing, integration testing, validation testing, system testing
- validation testing, system testing, integration testing, unit testing

C. unit testing, integration testing, validation testing, system testing

7

. By collecting software metrics and making use of existing software reliability models it is possible to develop meaningful guidelines for determining when software testing is done.

ANS: TRUE

8

. Which of the following strategic issues needs to be addressed in a successful software testing process?

- conduct formal technical reviews prior to testing
- specify requirements in a quantifiable manner
- use independent test teams
- wait till code is written prior to writing the test plan
- a and b

E. a and b

9

. Which of the following need to be assessed during unit testing?

- algorithmic performance
- code stability
- error handling
- execution paths
- c and d

E. c and d

10

. Units and stubs are not needed for unit testing because the modules are tested independently of one another.

ANS: FALSE

11

. Top-down integration testing has as its major advantage(s) that

- low level modules never need testing
- major decision points are tested early
- no drivers need to be written
- no stubs need to be written
- b and c

E. b and c

12

. Bottom-up integration testing has as its major advantage(s) that

- major decision points are tested early
- no drivers need to be written
- no stubs need to be written
- regression testing is not required

C. no stubs need to be written

13

. Regression testing should be a normal part of integration testing because as a new module is added to the system new

- control logic is invoked
- data flow paths are established
- drivers require testing
- all of the above
- a and b

E. a and b

14

. Smoke testing might best be described as

- bulletproofing shrink-wrapped software
- rolling integration testing
- testing that hides implementation errors
- unit testing for small programs

B. rolling integration testing

15

. When testing object-oriented software it is important to test each class operation separately as part of the unit testing process

ANS: FALSE

16

. The OO testing integration strategy involves testing

- groups of classes that collaborate or communicate in some way
- single operations as they are added to the evolving class implementation
- operator programs derived from use-case scenarios
- none of the above

A. groups of classes that collaborate or communicate in some way

17

. Since many WebApps evolve continuously, the testing process must be ongoing as well.

ANS: TRUE

18

. Testing MobileApps is not different than testing WebApps.

ANS: FALSE

19

. The focus of validation testing is to uncover places that a user will be able to observe failure of the software to conform to its requirements.

ANS: TRUE

20

. Software validation is achieved through a series of tests performed by the user once the software is deployed in his or her work environment.

ANS: FALSE

21

. Configuration reviews are not needed if regression testing has been rigorously applied during software integration.

ANS: FALSE

22

. Acceptance tests are normally conducted by the

- developer
- end users
- test team
- systems engineers

B. end users

23

. Recovery testing is a system test that forces the software to fail in a variety of ways and verifies that software is able to continue execution without interruption.

AND: FALSE

24

. Security testing attempts to verify that protection mechanisms built into a system protect it from improper penetration.

AND: TRUE

25

. Stress testing examines the pressures placed on the user during system use in extreme environments.

ANS: FALSE

26

. Performance testing is only important for real-time or embedded systems.

ANS: FALSE

27

. Debugging is not testing, but always occurs as a consequence of testing.

ANS: TRUE

28

. Which of the following is an approach to debugging?

- backtracking
- brute force
- cause elimination
- code restructuring

- a, b, c

E. a, b, c

1

. With thorough testing it is possible to remove all defects from a program prior to delivery to the customer

ANS: FALSE

2

. Which of the following are characteristics of testable software?

- observability
- simplicity
- stability
- all of the above

D. all of the above

3

. The testing technique that requires devising test cases to demonstrate that each program function is operational is called

- black-box testing
- glass-box testing
- grey-box testing
- white-box testing

A. black-box testing

4

. The testing technique that requires devising test cases to exercise the internal logic of a software module is called

- behavioral testing
- black-box testing
- grey-box testing
- white-box testing

D. white-box testing

5

. What types of errors are missed by black-box testing and can be uncovered by white-box testing?

- behavioral errors
- logic errors
- performance errors
- typographical errors
- b and d

E. b and d

6

. Program flow graphs are identical to program flowcharts.

ANS: FALSE

7

. The cyclomatic complexity metric provides the designer with information regarding the number of

- cycles in the program
- errors in the program
- independent logic paths in the program
- statements in the program

C. independent logic paths in the program

8

. The cyclomatic complexity of a program can be computed directly from a PDL representation of an algorithm without drawing a program flow graph.

ANS: TRUE

9

. Condition testing is a control structure testing technique where the criteria used to design test cases is that they

- rely on basis path testing
- exercise the logical conditions in a program module
- select test paths based on the locations and uses of variables
- focus on testing the validity of loop constructs

B. exercise the logical conditions in a program module

10

. Data flow testing is a control structure testing technique where the criteria used to design test cases is that they

- rely on basis path testing

- exercise the logical conditions in a program module
- select test paths based on the locations and uses of variables
- focus on testing the validity of loop constructs

C. select test paths based on the locations and uses of variables

11

. Loop testing is a control structure testing technique where the criteria used to design test cases is that they

- rely basis path testing
- exercise the logical conditions in a program module
- select test paths based on the locations and uses of variables
- focus on testing the validity of loop constructs

D. focus on testing the validity of loop constructs

12

. Black-box testing attempts to find errors in which of the following categories

- incorrect or missing functions
- interface errors
- performance errors
- none of the above
- a, b, c

E. a, b, c

13

. Graph-based testing methods can only be used for object-oriented systems

ANS: FALSE

14

. Equivalence testing divides the input domain into classes of data from which test cases can be derived to reduce the total number of test cases that must be developed.

ANS: TRUE

15

. Boundary value analysis can only be used to do white-box testing.

ANS: FALSE

16

. Orthogonal array testing enables the test designer to maximize the coverage of the test cases devised for relatively small input domains.

ANS: TRUE

17

. Test derived from behavioral class models should be based on the

- data flow diagram
- object-relation diagram
- state transition diagram
- use-case diagram

C. state transition diagram

18

. Documentation does not need to be tested.

ANS: FALSE

19

. Real-time applications add a new and potentially difficult element to the testing mix

- performance
- reliability
- security
- time

D. time

1

. Testing OO class operations is made more difficult by

- Encapsulation
- Inheritance
- Polymorphism
- Both b and c

D. Both b and c

2

. It is not possible to test object-oriented software without including error discovery techniques applied to the system OOA and OOD models

ANS: TRUE

3

. The correctness of the OOA and OOD model is accomplished using formal technical reviews by the software quality assurance team.

ANS: FALSE

4

. The consistency of object-oriented models may be judged by reviewing the CRC card model.

ANS: TRUE

5

. Test case design for OO software is driven by the algorithmic detail of the individual operations.

ANS: TRUE

6

. Integration testing of object-oriented software can be accomplished by which of the following testing strategies?

- Cluster testing
- Glass-box testing
- Thread-based testing
- Use-based testing
- a, c, d

E. a, c, d

7

. Validation of object-oriented software focuses on user visible actions and outputs from the system.

ANS: TRUE

8

. Encapsulation of attributes and operations inside objects makes it easy to obtain object state information during testing

ANS: FALSE

9

. Use-cases can provide useful input into the design of black-box and state-based tests of OO software.

ANS: TRUE

10

. Fault-based testing is best reserved for

- conventional software testing
- operations and classes that are critical or suspect
- use-case validation
- white-box testing of operator algorithms

B. operations and classes that are critical or suspect

11

. Scenario-based testing

- concentrates on actor and software interaction
- misses errors in specifications
- misses errors in subsystem interactions
- both a and b

A. concentrates on actor and software interaction

12

. Random order tests are conducted to exercise different class instance life histories.

ANS: TRUE

13

. Which of these techniques is not useful for partition testing at the class level

- attribute-based partitioning
- category-based partitioning
- equivalence class partitioning
- state-based partitioning

C. equivalence class partitioning

14

. Multiple class testing is too complex to be tested using random test cases.

ANS: FALSE

15

. The state model can be used to derive test cases based on the dynamic behavior of an object-oriented system.

ANS: TRUE

1

. Which of the following is not one of the dimensions of quality used to assess a WebApp?

- Content
- Maintainability
- Navigability
- Usability

B. Maintainability

2

. WebApps require special testing methodologies because WebApp errors have several unique characteristics

ANS: TRUE

3

. Since WebnApps evolve continuously, the testing process is an on-going activity, conducted by the Web support staff using regression tests

ANS: TRUE

4

. Test planning is not used in WebApp testing.

ANS: FALSE

5

. As the WebApp architecture is constructed which types of testing are used as integration tests?

- Component testing
- Content testing
- Navigation testing
- Usability testing
- both a and c

E. both a and c

6

. Which of the following is not one of the objectives of WebApp content testing?

- Find organizational or structure errors
- Identify linking errors

- Uncover semantic errors
- Uncover syntactic errors

B. Identify linking errors

7

. Database testing is very rarely a part of WebApp content testing.

ANS: FALSE

8

. The overall strategy for interface testing is to uncover errors

- in navigation semantics
- in overall usability
- related to specific interface mechanisms
- both a and c

D. both a and c

9

. Which of the following is not a WebApp interface mechanism?

- Browser
- Cookies
- Forms
- Links

C. Forms

10

. When testing WebApp interface semantics, each use-case is used as input for the design of a testing sequence.

ANS: TRUE

11

. Usability tests should be designed and executed by intended users for a given WebApp.

ANS: FALSE

12

. WebApp compatibility testing is conducted to be sure that the user model for usage scenario matched the user category assigned to a given user

ANS: FALSE

13

. Which test case design technique(s) are appropriate for WebApp component-level testing?

- Boundary value analysis
- Equivalence partitioning
- Path testing
- All of the above

D. All of the above

14

. The purpose of WebApp navigation syntactic testing is to ensure the correct appearance of each navigation mechanism

ANS: FALSE

15

. Both Web engineers and non-technical users conduct navigation semantics testing for WebApps.

ANS: TRUE

16

. Which of following is not one of the elements that need to be considered when constructing WebApp server-side configuration tests?

- Browser compatibility
- Database software integration
- Operating system compatibility
- System security measures

A. Browser compatibility

17

. To design client-side configuration tests each user category is assessed to reduce the number of configuration variables to a manageable number

ANS: TRUE

18

. Which of the following is not a testable WebApp security element?

- Authentication
- Encryption
- Firewalls
- Penetration

D. Penetration

19

. WebApp performance tests are designed to

- asses WebApp usability
- evaluate page loading times
- simulate real-world loading situations
- test network connectivity

C. simulate real-world loading situations

20

. Load testing involves determining the input of which 3 variables?

- N, T, D
- N, T, P
- T, D, P
- N, D, P

A. N, T, D

21

. WebApp stress testing is a continuation load testing.

ANS: TRUE

1

. MobileApps require special testing methodologies because of concerns associated using them in diverse network environments.

ANS: TRUE

2

. Since MobileApp users are attracted to new technologies they are very tolerant of errors and testing effort can be reduced.

ANS: FALSE

3

. Designing test cases directly from user stories increase the likelihood of developing effective test cases in a timely manner

ANS: TRUE

4

. Automated testing tools eliminate the need to do regression testing for MobileApps.

ANS: FALSE

5

. A weighted device platform matrix helps to prioritize test cases.

ANS: FALSE

6

. Part of the reason for stress testing is to ensure that the MobileApp exhibits graceful degradation on failure

ANS: TRUE

7

. Which of the following are reasons for testing in the wild?

- Assessing the impact of production environments
- Failing to create test cases
- Not understanding user demographics
- Testing for variable performance on user devices
- both a and d

E. both a and d

8

. When testing the quality of user interaction the focus should be on user visible interaction mechanisms.

ANS: TRUE

9

. Which of that following add to the difficulty of testing MobileApp gestures?

- Automatic tool use is difficult
- Creating functions to simulate events
- Screen size variation
- Using paper prototypes
- a, b, c

E. a, b, c

10

. Continuous speech recognition techniques have eliminated the need for key entry in MobileApps.

ANS: FALSE

11

. Predictive technologies are often used to help speed up virtual keyboard input on mobile devices.

ANS: TRUE

12

. The ability of a MobileApp to handle alerts without disrupting user workflow must be tested in the production environment?

ANS: TRUE

13

. The Testing across borders is not necessary each MobileApp is developed for use in a specific country.

ANS: FALSE

14

. Which of the following are issues that make real-time testing difficult?

- Limited device processing capacity
- Power limitations on the device
- Unique mobile network infrastructures
- All of the above

D. All of the above

15

. Device emulators eliminate the need to test MobileApps on actual devices.

ANS: FALSE

1

. When analyzing security requirements focus in system assets with the highest value and greatest exposure

ANS: TRUE

2

. It is possible to have a safe system that is not secure.

ANS: FALSE

3

. Individuals rarely expose their personal information to others on social media networks

ANS: FALSE

4

. Wireless networks require the trust and cooperation between nodes that can be exploited by malicious programs?

ANS: TRUE

5

. Cloud computing is has greater levels of security than other web data repositories.

ANS: FALSE

6

. The security concerns remain an obstacle to implementing the vision implied by the Internet of Things .

ANS: TRUE

7

. Security and usability requirements are often in conflict with each other.

ANS: TRUE

8

. Which of following is not one of the elements of a security model?

- Criminal background checks
- External interface requirements
- Rules of operation
- Security policy objectives

A. Criminal background checks

9

. Security metrics and measures need to assess which of these properties?

- Dependability

- Survivability
- Trustworthiness
- All of the above

D. All of the above

10

. Security correctness checks should be included which of the following activities?

- Audits
- Deployment
- Inspections
- Testing
- a, b, c

E. a, b, c

11

. Which is not one of the elements of a security case?

- Arguments
- Bug reports
- Claims
- Evidence

B. Bug reports

12

. Security assurance and risk identification must be included in the schedule and budget if they are to be taken seriously.

ANS: TRUE

13

. Threat analysis is not needed for conventional software applications.

ANS: FALSE

14

. An incident response plan spells out the actions to be carried out by each stakeholder in response to specific attacks.

ANS: TRUE

1

. Statistical use testing relies on probability distributions based on

- mixture of control structures used in the program
- order in which the module execute
- the way software will actually be used
- user interface design standards

C. the way software will actually be used

2

. Certification of an increment is complete once it has passed the formal verification process.

ANS: FALSE

3

. Which of the following models is part of the cleanroom certification process?

- component model
- sampling model
- both a and b
- none of the above

C. both a and b

4

. A data invariant is a set of conditions that are true during the execution of any function.

ANS: FALSE

5

. In some formal languages, stored data that the system accesses and alters is called a(n)

- attribute
- data structure
- state
- variant

C. state

6

. In formal methods work, an action that reads or writes data to a state is called a(n)

- actor
- event
- invariant
- operation

D. operation

7

. What defines the circumstances in which a particular operation is valid?

- data invariant
- precondition
- postcondition
- state

B. precondition

8

. Using formal methods eliminates the need to write natural language commentary in the specification document.

ANS: FALSE

9

. A common notational convention in many formal methods is to write the variable with a prime in the postcondition for an operator

ANS: TRUE

10

. Which of these are components of a formal specification language?

- Semantics that defines the objects used to describe system
- Set of relations defining the object rules
- Syntax that defining the notation
- all of the above

D. all of the above

11

. OCL makes use of several specialized mathematical characters

ANS: FALSE

12

. The Z language makes use of schemas to describe system states in terms of the values assigned to system variables.

ANS: TRUE

13

. The cleanroom strategy is based on the _____ software process model.

- evolutionary
- incremental
- revolutionary
- spiral

B. incremental

14

. The cleanroom strategy relies on

- exhaustive testing
- extensive unit testing of all modules
- tests that exercise the software as it is really used
- white box testing strategies

C. tests that exercise the software as it is really used

15

. Use of formal program correctness proofs as part of the cleanroom process eliminates the need do any testing for software defects

ANS: FALSE

16

. In cleanroom software engineering a “box” encapsulates some system aspect at a particular level of detail.

ANS: TRUE

17

. This box specification describes an abstraction, stimuli, and response

- black box
- clear box
- state box
- white box

A. black box

18

. This box specification describes the architectural design for some system component

- black box
- clear box

- state box
- white box

C. state box

19

. This box specification is closely aligned with procedural design and structured programming.

- black box
- clear box
- state box
- white box

B. clear box

20

. In cleanroom software engineering the structured programming approach is used to

- refine data design
- refine function design
- refine usage test cases
- both a and b

D. both a and b

21

. By using only structured programming constructs as you create a procedural design, you make the work of proving design correctness much easier.

ANS: TRUE

22

. Which of the following is not an advantage of using rigorous correctness verification of each refinement of the clear box design?

- improves performance of code
- produces better code than unit testing
- reduces verification effort
- results in near zero defect levels

A. improves performance of code

1

. Which of these are valid software configuration items?

- case tools

- documentation
- executable programs
- test data
- All of the above.

E. All of the above.

2

. Which of the following is not considered one of the four important elements that should exist when a configuration management system is developed?

- component elements
- human elements
- process elements
- validation elements

D. validation elements

3

. Once a software engineering work product becomes a baseline it cannot be changed again.

ANS: FALSE

4

. Which configuration objects would not typically be found in the project database?

- design specification
- marketing data
- organizational structure description
- test plans
- b and c

E. b and c

5

. Modern software engineering practices usually attempt to maintain SCI's in a project database or repository.

ANS: TRUE

6

. A data repository meta model is used to determine how

- information is stored in the repository
- well data integrity can be maintained
- easily the existing model can be extended

- all of the above

D. all of the above

7

. Many data repository requirements are the same as those for a typical database application.

ANS: TRUE

8

. The ability to track relationships and changes to configuration objects is one of the most important features of the SCM repository.

ANS: TRUE

9

. Which of the following tasks is not part of software configuration management?

- change control
- reporting
- statistical quality control
- version control

C. statistical quality control

10

. A basic configuration object is a _____ created by a software engineer during some phase of the software development process

- program data structure
- hardware driver
- unit of information
- all of the above

C. unit of information

11

. Version control systems establish a change set as part of their primary functionality.

ANS: FALSE

12

. Change control is not necessary if a development group is making use of an automated project database tool.

ANS: FALSE

13

. When software configuration management is a formal activity the software configuration audit is conducted by the

- development team
- quality assurance group
- senior managers
- testing specialists

B. quality assurance group

14

. The primary purpose of configuration status reporting is to

- allow revision of project schedule and cost estimates by project managers
- evaluate the performance of software developers and organizations
- make sure that change information is communicated to all affected parties
- none of the above

C. make sure that change information is communicated to all affected parties

15

. Configuration issues that need to be considered when developing Web and Mobile Apps include:

- content
- cost
- people
- politics
- a, b, c

E. a, b, c

16

. Web and Mobile App configuration objects can be managed in much the same way as conventional software configuration objects except for:

- content items
- functional items
- graphic items
- user items

A. content items

17

. Content management establishes a process by which Web content is rendered on the user's display screen.

ANS: FALSE

18

. Change management for Web and Mobile Apps is best handled in agile manner.

ANS: TRUE

19

. One reason that version control is difficult for WebApps is that in an uncontrolled environment, you can have multiple authors making changes to the same files from multiple locations without any realizing it.

ANS: TRUE

20

. Requiring developers to check Web configuration items in and out and sending affected stakeholders e-mail messages automatically are good ways to deal with configuration auditing and reporting for WebApps

ANS: TRUE

1

. Conformance to implicit requirements and customer expectations has no place in modern software quality assurance work

ANS: FALSE

2

. Which of the following is not one of three software product aspects addressed by McCall's software quality factors?

- ability to undergo change
- adaptability to new environments
- operational characteristics
- production costs and scheduling

D. production costs and scheduling

3

. The ISO 9126 quality standards for computer software are useful because they lend themselves to direct measurement of software attributes.

ANS: FALSE

4

. Most testing metrics actually focus on the process of testing rather than the technical characteristics of the tests themselves.

ANS: TRUE

5

. Testing effort can also be estimated using metrics derived from cyclomatic complexity.

ANS: TRUE

6

. Most technical software metrics described in this chapter represent indirect measures software attributes that are useful in the quantitative assessment of software quality.

ANS: TRUE

7

. Which these are reasons for using technical product measures during software development?

- large body of scientific evidence supports their use
- provides software engineers with an objective mechanism for assessing software quality
- they allow all quality software quality information to be expressed unambiguously as a single number
- all of the above

B. provides software engineers with an objective mechanism for assessing software quality

8

. Which measurement activity is missing from the list below?

- Formulation
- Collection
- Analysis
- Interpretation

- design
- feedback
- measurement
- quantification

B. feedback

9

. The Goal/Question/Metric (GQM) paradigm was developed as a technique for assigning blame for software failures.

ANS: FALSE

10

. One of the most important attributes for a software product metric is that it should be

- easy to compute
- qualitative in nature
- reliable over time
- widely applicable

A. easy to compute

11

. In many cases metrics for one model may be used in later software engineering activities (e.g. design metrics may be used in test planning)

ANS: TRUE

12

. The function point metric is an example of metric that can be used to assist with technical decision-making based on the analysis model information, without making use of historical project data

ANS: FALSE

13

. The specification metrics proposed by Davis address which two characteristics of the software requirements?

- functionality and performance
- performance and completeness
- specificity and completeness
- specificity and functionality

C. specificity and completeness

14

. Architectural design metrics focus on

- architectural structure
- data structural relationships
- internal module complexity
- module effectiveness
- a and d

E. a and d

15

. Which of the following is not a measurable characteristic of an object-oriented design?

- completeness
- efficiency
- size
- volatility

B. efficiency

16

. The depth of inheritance tree (DIT) metric can give an OO software designer a reading on the

- attributes required for each class
- completion time required for system implementation
- complexity of the class hierarchy
- level of object reusability achieved

B. completion time required for system implementation

17

. Because the class is the dominant unit in OO systems there is no call for the definition of class-oriented metrics.

ANS: FALSE

18

. If you encounter a class with a large responsibility (large class size or CS value) you should consider

- making it a base class
- making it a subclass
- partitioning the class
- starting a new class hierarchy

C. partitioning the class

19

. Component-level metrics include measures of

- complexity
- coupling
- module cohesion
- performance
- a, b, c

E. a, b, c

20

. Because the class is the dominant unit in OO systems very few metrics have been proposed for operations that reside within a class.

ANS: TRUE

21

. Interface metrics are used to assess the complexity of the module's input and output relationships with external devices.

ANS: FALSE

22

. Most WebApps can be easily characterized by judicious use of widely recognized suites of software metrics?

ANS: FALSE

23

. Halstead's source code metrics are based on the number of

- modules in the program
- operands in the program
- operators in the program
- volume elements in the program
- b and c

E. b and c

24

. Software testing metrics fall into two broad categories

- metrics that focus on defect removal effectiveness
- metrics that focus on test coverage
- metrics that estimate the duration of the testing process
- metrics that predict the number of test cases required
- b and d

E. b and d

25

. The IEEE software maturity index (SMI) is used to provide a measure of the

- maintainability of a software product based on its availability
- relative age of a software product being considered for retirement
- reliability of a software product following regression testing

- stability of a software product as it is modified during maintenance

D. stability of a software product as it is modified during maintenance

1

. **Effective software project management focuses on**

- people, performance, payoff, product
- people, product, performance, process
- people, product, process, project
- people, process, payoff, product

C. people, product, process, project

2

. **Organizations that achieve high levels of maturity in people management have a higher likelihood of implementing effective software engineering processes**

ANS: TRUE

3

. **The first step in project planning is to**

- determine the budget.
- select a team organizational model.
- determine the project constraints
- establish the objectives and scope

D. establish the objectives and scope

4

. **Process framework activities are populated with**

- milestones
- work products
- QA points
- all of the above

D. all of the above

5

. **Project management is less important for modern software development since most projects are successful and completed on time**

ANS: FALSE

6

. Which of the following is not considered a stakeholder in the software process?

- customers
- end-users
- project managers
- sales people

D. sales people

7

. The best person to hire as a project team leader is the most competent software engineering practitioner available

ANS: FALSE

8

. The best project team organizational model to use when tackling extremely complex problems is the

- closed paradigm
- open paradigm
- random paradigm
- synchronous paradigm

B. open paradigm

9

. Which factors should be considered in choosing the organizational structure for a software team?

- degree of communication desired
- predicted size of the resulting program
- rigidity of the delivery date
- size of the project budget
- a, b, c

E. a, b, c

10

. One of the best ways to avoid frustration during the software development process is to

- give team members more control over process and technical decisions
- give team members less control over process and technical decisions.
- hide bad news from the project team members until things improve.
- reward programmers based on their productivity.

A. give team members more control over process and technical decisions

11

. Small agile teams have no place in modern software development.

ANS: FALSE

12

. Which of these software characteristics is not a factor contributing to project coordination difficulties?

- interoperability
- performance
- scale
- uncertainty

B. performance

13

. Which of these software characteristics are used to determine the scope of a software project?

- context, lines of code, function
- context, function, communication requirements
- information objectives, function, performance
- communications requirements, performance, information objectives

C. information objectives, function, performance

14

. The major areas of problem decomposition during the project scoping activity are the

- customer workflow
- functionality to be delivered
- process used to deliver functionality
- software process model
- b and c

E. b and c

15

. Product and process decomposition occurs simultaneously as the project plan evolves.

ANS: TRUE

16

. When can selected common process framework activities be omitted during process decomposition?

- when the project is extremely small in size
- any time the software is mission critical
- rapid prototyping does not require their use
- never the activities are invariant

D. never the activities are invariant

17

. How does a software project manager need to act to minimize the risk of software failure?

- double the project team size
- request a large budget
- start on the right foot
- track progress
- c and d

E. c and d

18

. The W5HH principle contains which of the following questions?

- Why is the system being developed?
- What will be done by whom?
- Where are they organizationally located?
- How much of each resource is required?
- a, c d

E. a, c d

19

. Which of these are critical practices for performance-based project management?

- assessing product usability
- defect tracking against quality targets
- empirical cost estimation
- formal risk management
- b, c, d

E. b, c, d

1

. The terms measure, measurement, and metric all share the same definition according to the IEEE Standard Glossary of Software Engineering Terms.

ANS: FALSE

2

. Which of these are valid reasons for measuring software processes, products, and resources?

- to characterize them
- to evaluate them
- to price them
- to improve them
- a, b, d

E. a, b, d

3

. Process indicators enable a software project manager to

- assess the status of an on-going project
- track potential risks
- adjust work flow or tasks
- none of the above

D. none of the above

4

. Public metrics are used

- to evaluate the performance of software development teams.
- to appraise the performance of individual team members.
- to make strategic changes to the software process.
- to make tactical changes during a software project.
- c and d

E. c and d

5

. Which of the following items are not measured by software project metrics?

- inputs
- markets
- outputs
- results

B. markets

6

. Software quality and functionality must be measured indirectly.

ANS: TRUE

7

. Which of following are advantages of using LOC (lines of code) as a size-oriented metric?

- LOC is easily computed.
- LOC is a language dependent measure.
- LOC is a language independent measure.
- LOC can be computed before a design is completed.

A. LOC is easily computed.

8

. Which of the following are advantages of using function points (FP) as a measure of the functionality delivered by a software application?

- FP is easily computed
- FP is a language dependent measure.
- FP is a language independent measure
- FP can be computed before a design is completed
- c and d

E. c and d

9

. There is no need to reconcile LOC and FP measures since each is meaningful in its own right as a project measure.

ANS: FALSE

10

. Object-Oriented project measures may be combined with historical project data to provide metrics that aid in project estimation

ANS: TRUE

11

. Use-Case oriented metrics are computed directly from UML diagrams they are often used as normalization measures.

ANS: FALSE

12

. Which of the following is not a measure that can be collected from a Web application project?

- Customization index
- Number of dynamic objects
- Number of internal page links

- Number of static web pages

A. Customization index

13

. Which of the following software quality factors is most likely to be affected by radical changes to computing architectures?

- operation
- transition
- revision
- none of the above

D. none of the above

14

. Which of the following provide useful measures of software quality?

- correctness, performance, integrity, usability
- reliability, maintainability, integrity, sales
- correctness, maintainability, size, satisfaction
- correctness, maintainability, integrity, usability

D. correctness, maintainability, integrity, usability

15

. A software quality metric that can be used at both the process and project levels is defect removal efficiency (DRE).

ANS: TRUE

16

. Why is it important to measure the process of software engineering and software it produces?

- It is really not necessary unless the project is extremely complex.
- To determine costs and allow a profit margin to be set.
- To determine whether a software group is improving or not.
- To make software engineering more like other engineering processes

C. To determine whether a software group is improving or not.

17

. To be an effective aid in process improvement the baseline data used must be:

- based on reasonable guestimates from past projects
- measured consistently across projects

- drawn from similar projects
- based on all previously completed projects
- b and c

E. b and c

18

. Baseline data must be collected in an on-going manner and cannot be computed by formal study of historical project data

ANS: FALSE

19

. Small software organizations are not likely to see any economic return from establishing software metrics program

ANS: FALSE

20

. The software metrics chosen by an organization are driven by the business or technical goals an organization wishes to accomplish.

ANS: TRUE

1

. The only reason an estimate may be unreliable is lack of experience with the application on the part of the estimator.

ANS: FALSE

2

. The hardware required for most computer-based systems is more costly to purchase than the software.

ANS: FALSE

3

. Since project estimates are not completely reliable, they can be ignored once a software development project begins

ANS: FALSE

4

. The objective of software project planning is to

- convince the customer that a project is feasible.
- make use of historical project data.
- enable a manager to make reasonable estimates of cost and schedule
- determine the probable profit margin prior to bidding on a project.

C. enable a manager to make reasonable estimates of cost and schedule

5

. **The project scope is defined as a means of bounding the system**

- functionality
- performance
- costs
- schedule
- a and b

E. a and b

6

. **Software feasibility is based on which of the following**

- business and marketing concerns
- scope, constraints, market
- technology, finance, time, resources
- technical prowess of the developers

C. technology, finance, time, resources

7

. **The number of people required for a software project is determined**

- after an estimate of the development effort is made.
- by the size of the project budget.
- from an assessment of the technical complexity of the system.
- all of the above

A. after an estimate of the development effort is made.

8

. **Reusable software components must be**

- catalogued for easy reference
- standardized for easy application.
- validated for easy integration.
- all of the above

D. all of the above

9

. The software engineering environment (SEE) consists of which of the following?

- customers
- developers
- hardware platforms
- software tools
- c and d

E. c and d

10

. Software project estimation techniques can be broadly classified under which of the following headings?

- automated processes
- decomposition techniques
- empirical models
- regression models
- b and c

E. b and c

11

. The size estimate for a software product to be built must be based on a direct measure like LOC.

ANS: FALSE

12

. Problem-based estimation is based on problem decomposition which focuses on

- information domain values
- project schedule
- software functions
- process activities
- a and c

E. a and c

13

. LOC-based estimation techniques require problem decomposition based on

- information domain values
- project schedule
- software functions
- process activities

C. software functions

14

. FP-based estimation techniques require problem decomposition based on

- information domain values
- project schedule
- software functions
- process activities

A. information domain values

15

. Process-based estimation techniques require problem decomposition based on

- information domain values
- project schedule
- software functions
- process activities
- c and d

E. c and d

16

. Unlike a LOC or function point each person's "use-case" is exactly the same size

ANS: FALSE

17

. When agreement between estimates is poor the cause may often be traced to inadequately defined project scope or inappropriate productivity data.

ANS: TRUE

18

. Empirical estimation models are typically based on

- expert judgement based on past project experiences
- refinement of expected value estimation
- regression models derived from historical project data
- trial and error determination of the parameters and coefficients

C. regression models derived from historical project data

19

. COCOMO II is an example of a suite of modern empirical estimation models that require sizing information expressed as:

- function points
- lines of code
- object points
- any of the above

D. any of the above

20

. Putnam's software equation is a dynamic empirical model that has two independent parameters: a size estimate and an indication of project duration in calendar months or years.

ANS: TRUE

21

. Function points are of no use in developing estimates for object-oriented software.

ANS: FALSE

22

. In agile software development estimation techniques focus on the time required to complete each

- increment
- scenario
- task
- use-case

A. increment

23

. It is possible to use a modified function point technique to develop estimates for Web applications.

ANS: TRUE

24

. Using a statistical technique like decision tree analysis can provide some assistance in sorting out the true costs associated with the make-buy decision.

ANS: TRUE

25

. Outsourcing always provides a simple means of acquiring software at lower cost than onsite development of the same product.

ANS: FALSE

1

. For purposes of determining the major engineering tasks and distributing them on the project time line, the project manager should assume that the process model used is

- linear
- sequential
- iterative evolutionary
- any of the above

D. any of the above

2

. The only means accomplishing task refinement is to make use of a process design language approach.

ANS: FALSE

3

. Software projects are inevitably late and there is nothing that can explain why

ANS: FALSE

4

. It is unethical to undertake a project that you know in advance cannot be completed by the customer's deadline, unless you inform the customer of the risk and establish a project plan that can deliver the needed system incrementally

ANS: TRUE

5

. Which of the following is not one of the guiding principles of software project scheduling:

- compartmentalization
- market assessment
- time allocation
- effort validation

B. market assessment

6

. Doubling the size of your software project team is guaranteed to cut project completion time in half.

ANS: FALSE

7

. The software equation can be used to show that by extending the project deadline slightly

- fewer people are required
- you are guaranteed to meet the deadline
- more lines of code can be produced
- none of the above

A. fewer people are required

8

. The 40-20-40 rule suggests that the least of amount of development effort be spent on

- estimation and planning
- analysis and design
- coding
- testing

C. coding

9

. A task set is a collection of

- engineering work tasks, milestones, deliverables
- task assignments, cost estimates, metrics
- milestones, deliverables, metrics
- responsibilities, milestones, documents

A. engineering work tasks, milestones, deliverables

10

. The task (activity) network is a useful mechanism for

- computing the overall effort estimate
- detecting intertask dependencies
- determining the critical path
- specifying the task set to the customer
- b and c

E. b and c

11

. Tasks that lie on the critical path in a task network may be completed in any order as long as the project is on schedule.

ANS: FALSE

12

. Two tools for computing critical path and project completion times from activity networks are

- CPM
- DRE
- FP
- PERT
- a and d

E. a and d

13

. Timeline charts assist project managers in determining what tasks will be conducted at a given point in time.

ANS: TRUE

14

. The best indicator of progress on a software project is the completion

- of a defined engineering activity task
- of a successful budget review meeting on time
- and successful review of a defined software work product
- and successful acceptance of project prototype by the customer

C. and successful review of a defined software work product

15

. Since iterative process model work best for object-oriented projects it is impossible to determine whether an increment will be completed on time or not.

ANS: FALSE

16

. WebApp projects only require the creation of a macro schedule.

ANS: FALSE

17

. The purpose of earned value analysis is to

- determine how to compensate developers based on their productivity
- provide a quantitative means of assessing software project progress
- provide a qualitative means of assessing software project progress
- set the price point for a software product based on development effort

B. provide a quantitative means of assessing software project progress

18

. Earned value analysis is a technique that allows managers to take corrective action before a project crisis develops

ANS: TRUE

1

. A risk referent level is a risk component value (performance, cost, support, schedule) or combination of values that cause a project to be terminated.

ANS: TRUE

2

. An effective risk management plan will need to address which of the following issues?

- risk avoidance
- risk monitoring
- contingency planning
- all of the above

D. all of the above

3

. Proactive risk management is sometimes described as fire fighting

ANS: FALSE

4

. Software risk always involves two characteristics

- fire fighting and crisis management
- known and unknown risks
- uncertainty and loss
- staffing and budget

C. uncertainty and loss

5

. Three categories of risks are

- business risks, personnel risks, budget risks
- project risks, technical risks, business risks
- planning risks, technical risks, personnel risks

- management risks, technical risks, design risks

B. project risks, technical risks, business risks

6

. Generic risks require far more attention than product-specific risks.

ANS: FALSE

7

. A risk item checklist would contain known and predictable risks from which of these categories?

- product size
- development environment
- staff size
- process definition
- all of the above

E. all of the above

8

. Questions that should be asked to assess the overall project risk include:

- Have top managers formally committed to support the project?
- Are end-users committed to the project and proposed system being built?
- Are requirements fully understood by development team and customers?
- Does the proposed budget have time allocated for marketing?
- a, b, c

E. a, b, c

9

. Software risk impact assessment should focus on consequences affecting

- planning, resources, cost, schedule
- marketability, cost, personnel
- business, technology, process
- performance, support, cost, schedule

D. performance, support, cost, schedule

10

. Risk projection attempts to rate each risk in two ways

- likelihood and cost
- likelihood and impact

- likelihood and consequences
- likelihood and exposure

C. likelihood and consequences

11

. Risk tables are sorted by

- probability and cost
- probability and impact
- probability and consequences
- probability and exposure

B. probability and impact

12

. Individual team members can make their own estimate for a risk probability and then develop a consensus value.

ANS: TRUE

13

. Which factors affect the probable consequences likely if a risk does occur?

- risk cost
- risk timing
- risk scope
- risk resources
- b and c

E. b and c

14

. The reason for refining risks is to break them into smaller units having different consequences.

ANS: FALSE

15

. Effective risk management plan needs to address which of these issues?

- risk avoidance
- risk monitoring
- contingency planning
- all of the above

D. all of the above

16

. Risk monitoring involves watching the risk indicators defined for the project and not determining the effectiveness of the risk mitigation steps themselves.

ANS: FALSE

17

. Hazard analysis focuses on the identification and assessment of potential hazards that can cause

- project termination
- schedule slippage
- cost overruns
- an entire system to fail

D. an entire system to fail

18

. Risk information sheets (RIS) are never an acceptable substitute for a full risk mitigation, monitoring, and management (RMMM) plan.

ANS: FALSE

1

. A new _____ is defined when major changes have been made to one or more configuration objects.

- entity
- item
- variant
- version

D. version

2

. WebApp configuration objects can be managed in much the same way as conventional software configuration objects except for:

- content items
- functional items
- graphic items
- user items

A. content items

3

. SCI standards take a formal view and do not address guidelines for applying change management in agile environments.

ANS: FALSE

4

. How much effort is typically expended by a software organization on software maintenance?

- 20 percent
- 40 percent
- 60 percent
- 80 percent

C. 60 percent

5

. Software supportability is not concerned with either the provision of hardware or infrastructure.

ANS: FALSE

6

. Business process reengineering is often accompanied by software reengineering.

ANS: TRUE

7

. Which of the following is not an example of a business process?

- designing a new product
- hiring an employee
- purchasing services
- testing software

D. testing software

8

. Business process reengineering does not have a start or end, it is an evolutionary process.

ANS: TRUE

9

. Which of the following activities is not part of the software reengineering process model?

- forward engineering
- inventory analysis
- prototyping

- reverse engineering

C. prototyping

10

. Software reengineering process model includes restructuring activities for which of the following work items?

- code
- documentation
- data
- all of the above

D. all of the above

11

. Which of the following is not an issue to consider when reverse engineering?

- abstraction level
- completeness
- connectivity
- directionality

C. connectivity

12

. Reverse engineering of data focuses on

- database structures
- internal data structures
- both a and b
- none of the above

C. both a and b

13

. The first reverse engineering activity involves seeking to understand

- data
- processing
- user interfaces
- none of the above

B. processing

14

. Reverse engineering should proceed the reengineering of any user interface.

ANS: TRUE

15

. Which of these benefits can be achieved when software is restructured?

- higher quality programs
- reduced maintenance effort
- software easier to test
- all of the above

D. all of the above

16

. Code restructuring is a good example of software reengineering

ANS: FALSE

17

. Which of these is not an example of data restructuring?

- data analysis
- data name rationalization
- data record standardization
- none of the above

A. data analysis

18

. Forward engineering is not necessary if an existing software product is producing the correct output.

ANS: FALSE

19

. Reengineering client/server systems begins with a thorough analysis of the business environment that encompasses the existing computing system

ANS: TRUE

20

. The only time reengineering enters into work with a legacy system is when its components will be implemented as objects.

ANS: FALSE

21

. The cost benefits derived from reengineering are realized largely due to decreased maintenance and support costs for the new software product.

ANS: TRUE

Which one of the following is not an Evolutionary Process Model?

- a) WINWIN Spiral Model
- b) Incremental Model
- c) Concurrent Development Model
- d) All of the mentioned**

The Incremental Model is a result of combination of elements of which two models?

- a) Build & FIX Model & Waterfall Model
- b) Linear Model & RAD Model
- c) Linear Model & Prototyping Model**
- d) Waterfall Model & RAD Model

What is the major advantage of using Incremental Model?

- a) Customer can respond to each increment
- b) Easier to test and debug
- c) It is used when there is a need to get a product to the market early
- d) Easier to test and debug & It is used when there is a need to get a product to the market early**

The spiral model was originally proposed by

- a) IBM
- b) Barry Boehm**
- c) Pressman
- d) Royce

The spiral model has two dimensions namely _____ and _____

- a) diagonal, angular
- b) radial, perpendicular
- c) radial, angular**
- d) diagonal, perpendicular

How is WINWIN Spiral Model different from Spiral Model?

- a) It defines tasks required to define resources, timelines, and other project related information
- b) It defines a set of negotiation activities at the beginning of each pass around the spiral**
- c) It defines tasks required to assess both technical and management risks
- d) It defines tasks required to construct, test, install, and provide user support

Identify the disadvantage of Spiral Model.

- a) Doesn't work well for smaller projects
- b) High amount of risk analysis
- c) Strong approval and documentation control
- d) Additional Functionality can be added at a later date

Spiral Model has user involvement in all its phases.

- a) True
- b) False

How is Incremental Model different from Spiral Model?

- a) Progress can be measured for Incremental Model
- b) Changing requirements can be accommodated in Incremental Model
- c) Users can see the system early in Incremental Model
- d) All of the mentioned

If you were to create client/server applications, which model would you go for?

- a) WINWIN Spiral Model
- b) Spiral Model
- c) Concurrent Model
- d) Incremental Model

Selection of a model is based on

- a) Requirements
- b) Development team & Users
- c) Project type and associated risk
- d) All of the mentioned

Which two models doesn't allow defining requirements early in the cycle?

- a) Waterfall & RAD
- b) Prototyping & Spiral
- c) Prototyping & RAD
- d) Waterfall & Spiral

Which of the following life cycle model can be chosen if the development team has less experience on similar projects?

- a) Spiral
- b) Waterfall
- c) RAD
- d) Iterative Enhancement Model

If you were a lead developer of a software company and you are asked to submit a project/product within a stipulated time-frame with no cost barriers, which model would you select?

- a) Waterfall

- b) Spiral
- c) RAD
- d) Incremental

Which two of the following models will not be able to give the desired outcome if user's participation is not involved?

- a) Waterfall & Spiral
- b) RAD & Spiral
- c) RAD & Waterfall
- d) RAD & Prototyping

A company is developing an advance version of their current software available in the market, what model approach would they prefer ?

- a) RAD
- b) Iterative Enhancement
- c) Both RAD & Iterative Enhancement
- d) Spiral

One can choose Waterfall Model if the project development schedule is tight.

- a) True
- b) False

Choose the correct option from given below:

- a) Prototyping Model facilitates reusability of components
- b) RAD Model Model facilitates reusability of components
- c) Both RAD & Prototyping Model facilitates reusability of components
- d) None

Spiral Model has high reliability requirements.

- a) True
- b) False

RAD Model has high reliability requirements.

- a) True
- b) False

Identify a fourth generation language(4GL) from the given below.

- a) FORTRAN
- b) COBOL
- c) Unix shell
- d) C++

Arrange the following activities for making a software product using 4GT.

- i. Design strategy
- ii. Transformation into product

iii. Implementation

iv. Requirement gathering

- a) 1, 4, 3, 2
- b) 4, 3, 1, 2
- c) 4, 1, 3, 2
- d) 1, 3, 4, 2

. 4GL is an example of _____ processing.

- a) White Box
- b) Black Box
- c) Functional
- d) Both Black Box & Functional

The 4GT Model is a package of _____

- a) CASE Tools
- b) Software tools
- c) Software Programs
- d) None of the mentioned

Which of the following is not a type of a 4GL? One originating _____

- a) on Lisp machine
- b) on report generators
- c) from database query languages
- d) from GUI creators

In 4GT, we can specify the user requirements in graphic notation or small abbreviated language form.

- a) True
- b) False

Productivity of software engineers is reduced in using a 4GT.

- a) True
- b) False

Which of the following 4GLs invented at IBM and subsequently adopted by ANSI and ISO as the standard language for managing structured data?

- a) SQL
- b) PROLOG
- c) C
- d) JAVA

What is a major advantage of using a 4GT Model for producing small scale products, applications or programs ?

- a) Improved productivity of software engineers
- b) Reduction in software development time

- c) 4GT helped by CASE tools and code generators offers a credible solution to many software problems
- d) None of the mentioned

Which of the following model has a major disadvantage in terms of the coding phase of a software life cycle model ?

- a) Spiral Model
- b) Waterfall Model
- c) Rad Model
- d) 4GT Model**

Which one of the following is not a software process quality?

- a) Productivity
- b) Portability**
- c) Timeliness
- d) Visibility

_____ & _____ are two kinds of software products.

- a) CAD, CAM
- b) Firmware, Embedded
- c) Generic, Customised**
- d) None of the mentioned

Software costs more to maintain than it does to develop.

- a) True**
- b) False

Which one of the following is not an application of embedded software product?

- a) keypad control of a security system
- b) pattern recognition game playing**
- c) digital function of dashboard display in a car
- d) none of the mentioned

Purpose of process is to deliver software

- a) in time
- b) with acceptable quality
- c) that is cost efficient
- d) both in time & with acceptable quality**

The work associated with software engineering can be categorized into three generic phases, regardless of application area, project size, or complexity namely the _____ phase which focuses on *what*, the _____ phase which focuses on *how* and the _____ phase which focuses on *change*.

- i. support
- ii. development

iii. definition

- a) 1, 2, 3
- b) 2, 1, 3
- c) 3, 2, 1
- d) 3, 1, 2

Which of the following activities of a Generic Process framework provides a feedback report?

- a) Communication
- b) Planning
- c) Modeling & Construction
- d) Deployment

Process adopted for one project is same as the process adopted from another project.

- a) True
- b) False

Which one of the following is not an Umbrella Activity that complements the five process framework activities and help team manage and control progress, quality, change, and risk.

- a) Reusability management
- b) Risk management
- c) Measurement
- d) User Reviews

Four types of change are encountered during the support phase. Which one of the following is not one that falls into such category?

- a) Translation
- b) Correction
- c) Adaptation
- d) Prevention

If a software production gets behind schedule, one can add more programmers and catch up.

- a) True
- b) False

Choose an internal software quality from given below:

- a) scalability
- b) usability
- c) reusability
- d) reliability

. RUP stands for _____ created by a division of _____

- a) Rational Unified Program, IBM
- b) Rational Unified Process, Infosys

- c) Rational Unified Process, Microsoft
- d) Rational Unified Process, IBM**

The RUP is normally described from three perspectives-dynamic, static & practice.What does static perspective do ?

- a) It shows the process activities that are enacted**
- b) It suggests good practices to be used during the process
- c) It shows the phases of the model over time
- d) All of the mentioned

The only deliverable work product for a successful project is the working program.

- a) True
- b) False**

Which phase of the RUP is used to establish a business case for the system ?

- a) Transition
- b) Elaboration
- c) Construction
- d) Inception**

Which one of the following is not a fundamental activity for software processes in software engineering ?

- a) Software Verification**
- b) Software Validation
- c) Software design and implementation
- d) Software evolution

A general statement of objectives is the major cause of failed software efforts.

- a) True**
- b) False

The longer a fault exists in software

- a) the more tedious its removal becomes
- b) the more costly it is to detect and correct
- c) the less likely it is to be properly corrected
- d) All of the mentioned**

Component-based Software Engineering allows faster delivery.

- a) True**
- b) False

Arrange the following steps to form a basic/general Engineering Process Model.

- i. Test
- ii. Design
- iii. Install

iv. Specification

v. Manufacture

vi. Maintain

a) 2, 4, 5, 1, 6, 3

b) 4, 2, 5, 1, 3, 6

c) 2, 4, 5, 1, 3, 6

d) 4, 2, 5, 1, 6, 3

Select the option that suits the Manifesto for Agile Software Development

a) Individuals and interactions

b) Working software

c) Customer collaboration

d) All of the mentioned

Agile Software Development is based on

a) Incremental Development

b) Iterative Development

c) Linear Development

d) Both Incremental and Iterative Development

Which one of the following is not an agile method?

a) XP

b) 4GT

c) AUP

d) All of the mentioned

Agility is defined as the ability of a project team to respond rapidly to a change.

a) True

b) False

How is plan driven development different from agile development ?

a) Outputs are decided through a process of negotiation during the software development process

b) Specification, design, implementation and testing are interleaved

c) Iteration occurs within activities

d) All of the mentioned

How many phases are there in Scrum ?

a) Two

b) Three

c) Four

d) Scrum is an agile method which means it does not have phases

Agile methods seem to work best when team members have a relatively high skill level.

- a) True
- b) False

Which of the following does not apply to agility to a software process?

- a) Uses incremental product delivery strategy
- b) Only essential work products are produced
- c) Eliminate the use of project planning and testing
- d) All of the mentioned

Which three framework activities are present in Adaptive Software Development(ASD) ?

- a) analysis, design, coding
- b) requirements gathering, adaptive cycle planning, iterative development
- c) speculation, collaboration, learning
- d) all of the mentioned

In agile development it is more important to build software that meets the customers' needs today than worry about features that might be needed in the future.

- a) True
- b) False

Incremental development in Extreme Programming (XP) is supported through a system release once every month.

- a) True
- b) False

In XP, as soon as the work on a task is complete, it is integrated into the whole system.

- a) True
- b) False

In XP Increments are delivered to customers every _____ weeks.

- a) One
- b) Two
- c) Three
- d) Four

User requirements are expressed as _____ in Extreme Programming.

- a) implementation tasks
- b) functionalities
- c) scenarios
- d) none of the mentioned

Is a customer involved test development and validation in XP ?

- a) Yes
- b) No

c) It may vary from Customer to Customer

d) None of the mentioned

Programmers prefer programming to testing and sometimes they take shortcuts when writing tests. For example, they may write incomplete tests that do not check for all possible exceptions that may occur.

a) True

b) False

Tests are automated in Extreme Programming.

a) True

b) False

In XP an automated unit test framework is used to write tests for a new piece of functionality before that functionality itself is implemented.

a) True

b) False

Developers work individually on a release and they compare their results with other developers before forwarding that release to customers.

a) True

b) False

Which four framework activities are found in the Extreme Programming(XP) ?

a) analysis, design, coding, testing

b) planning, analysis, design, coding

c) planning, design, coding, testing

d) planning, analysis, coding, testing

What are the types of requirements ?

a) Availability

b) Reliability

c) Usability

d) All of the mentioned

Select the developer-specific requirement ?

a) Portability

b) Maintainability

c) Availability

d) Both Portability and Maintainability

Which one of the following is not a step of requirement engineering?

a) elicitation

b) design

- c) analysis
- d) documentation

FAST stands for

- a) Functional Application Specification Technique
- b) Fast Application Specification Technique
- c) **Facilitated Application Specification Technique**
- d) None of the mentioned

QFD stands for

- a) quality function design
- b) quality function development
- c) **quality function deployment**
- d) none of the mentioned

A Use-case actor is always a person having a role that different people may play.

- a) True
- b) **False**

The user system requirements are the parts of which document ?

- a) SDD
- b) **SRS**
- c) DDD
- d) SRD

A stakeholder is anyone who will purchase the completed software system under development.

- a) True
- b) **False**

Conflicting requirements are common in Requirement Engineering, with each client proposing his or her version is the right one.

- a) **True**
- b) False

Which is one of the most important stakeholder from the following ?

- a) Entry level personnel
- b) Middle level stakeholder
- c) Managers
- d) **Users of the software**

Which one of the following is a functional requirement ?

- a) Maintainability
- b) Portability

- c) Robustness
- d) None of the mentioned

Which one of the following is a requirement that fits in a developer's module ?

- a) Availability
- b) Testability
- c) Usability
- d) Flexibility

"Consider a system where, a heat sensor detects an intrusion and alerts the security company." What kind of a requirement the system is providing ?

- a) Functional
- b) Non-Functional
- c) Known Requirement
- d) None of the mentioned

Which of the following statements explains portability in non-functional requirements?

- a) It is a degree to which software running on one platform can easily be converted to run on another platform
- b) It cannot be enhanced by using languages, OS' and tools that are universally available and standardized
- c) The ability of the system to behave consistently in a user-acceptable manner when operating within the environment for which the system was intended
- d) None of the mentioned

Functional requirements capture the intended behavior of the system.

- a) True
- b) False

Choose the incorrect statement with respect to Non-Functional Requirement(NFR).

- a) Product-oriented Approach – Focus on system (or software) quality
- b) Process-oriented Approach – Focus on how NFRs can be used in the design process
- c) Quantitative Approach – Find measurable scales for the functionality attributes
- d) Qualitative Approach – Study various relationships between quality goals

How many classification schemes have been developed for NFRs ?

- a) Two
- b) Three
- c) Four
- d) Five

According to components of FURPS+, which of the following does not belong to S ?

- a) Testability
- b) Speed Efficiency

- c) Serviceability
- d) Installability

Does software wear & tear by decomposition ?

- a) Yes
- b) No

What are the four dimensions of Dependability ?

- a) Usability, Reliability, Security, Flexibility
- b) Availability, Reliability, Maintainability, Security
- c) Availability, Reliability, Security, Safety
- d) Security, Safety, Testability, Usability

Choose the correct statement on how NFRs integrates with Rational Unified Process ?

- a) System responds within 4 seconds on average to local user requests and changes in the environment
- b) System responds within 4 seconds on average to remote user requests and changes in the environment
- c) All of the mentioned
- d) None of the mentioned

What is the first step of requirement elicitation ?

- a) Identifying Stakeholder
- b) Listing out Requirements
- c) Requirements Gathering
- d) All of the mentioned

Starting from least to most important, choose the order of stakeholder.

- i. Managers
 - ii. Entry level Personnel
 - iii. Users
 - iv. Middle level stakeholder
- a) i, ii, iv, iii
 - b) i, ii, iii, iv
 - c) ii, iv, i, iii
 - d) All of the mentioned

Arrange the tasks involved in requirements elicitation in an appropriate manner.

- i. Consolidation
 - ii. Prioritization
 - iii. Requirements Gathering
 - iv. Evaluation
- a) iii, i, ii, iv
 - b) iii, iv, ii, i

- c) iii, ii, iv, i
- d) ii, iii, iv, i

What are the types of requirement in Quality Function Deployment(QFD) ?

- a) Known, Unknown, Undreamed
- b) User, Developer
- c) Functional, Non-Functional
- d) Normal, Expected, Exciting**

What kind of approach was introduced for elicitation and modelling to give a functional view of the system ?

- a) Object Oriented Design (by Booch)
- b) Use Cases (by Jacobson)**
- c) Fusion (by Coleman)
- d) Object Modeling Technique (by Rumbaugh)

What are the kinds of actors used in OOSE ?

- a) Primary
- b) Secondary
- c) Ternary
- d) Both Primary and Secondary**

Why is Requirements Elicitation a difficult task ?

- a) Problem of scope
- b) Problem of understanding
- c) Problem of volatility
- d) All of the mentioned**

What requirement gathering method developed at IBM in 1970s is used for managing requirement elicitation ?

- a) JAD
- b) Traceability
- c) FAST
- d) Both JAD and Traceability**

. Requirements elicitation is a cyclic process

- a) True**
- b) False

How many Scenarios are there in elicitation activities ?

- a) One
- b) Two
- c) Three
- d) Four**

Which of the following elicitation techniques is a viewpoint based method?

- a) FODA
- b) QFD
- c) CORE
- d) IBIS

_____ and _____ are the two view points discussed in Controlled Requirements Expression (CORE).

- a) Functional, Non-Functional
- b) User, Developer
- c) Known, Unknown
- d) All of the mentioned

What is the major drawback of CORE ?

- a) Requirements are comprehensive
- b) NFRs are not given enough importance
- c) Role of analyst is passive
- d) All of the mentioned

Choose a framework that corresponds to Issue Based Information System (IBIS).

- a) Idea -> Question -> Argument
- b) Question -> Idea -> Argument
- c) Issue -> Position -> Justification
- d) Both Question -> Idea -> Argument and Issue -> Position -> Justification

How is CORE different from IBIS ?

- a) Iterative in nature
- b) Redundancies are removed
- c) It is simple and an easier method to use
- d) Consistency problems are addressed in CORE

Which of the following Requirement Elicitation Techniques removes the poor understanding of application domain and lack of common terminology between the users and the analysts ?

- a) FODA
- b) CORE
- c) IBIS
- d) Prototyping

How many steps are involved in Feature Oriented Domain Analysis (FODA) ?

- a) Two
- b) Three

- c) Four
- d) Five

IBIS is a more structured approach than CORE.

- a) True
- b) False

Which one of the following is not an actor in JAD sessions ?

- a) User
- b) Tester
- c) Scribe
- d) Sponsor

What of the following is not an output of a JAD session ?

- a) Context Diagrams
- b) DFDs
- c) ER model
- d) UML diagrams

How is brainstorming different from JAD ? Brainstorming sessions

- a) last for about 2-3 hours
- b) last for about 2-3 days
- c) cover the technology used for the development
- d) all of the mentioned

How is throwaway prototype different from evolutionary prototype ?

- a) It involves successive steps
- b) It involves just one task
- c) The prototype is built with the idea that it will eventually be converted into final system
- d) It has a shorter development time

Keeping the requirements of QFD in mind which of the following is not an example of an Expected Requirement ?

- a) Ease of software installation
- b) Overall operational correctness and reliability
- c) Specific system functions
- d) Quality graphical display

QFD works best if it has management commitment.

- a) True
- b) False

Which of the following Requirement Elicitation Techniques is applicable to messy, changing and ill-defined problem situations ?

- a) Quality Function Deployment (QFD)

- b) Prototyping
- c) Soft Systems Methodology (SSM)
- d) Controlled Requirements Expression (CORE)

To ensure that a given root definition is rigorous and comprehensive, The Lancaster team proposed several criteria that are summarized in the mnemonic CATWOE in Soft Systems Methodology (SSM). Which of the following alphabet is representing an entirely different meaning to SSM ?

- a) C – Customer
- b) A – Actor
- c) T – Transformation
- d) E – ER Model

Choose the disadvantage of using SSM as an elicitation technique.

- a) It incorporates human element into design
- b) SSM is in its infant stage
- c) SSM is suitable for new systems
- d) Standard methodologies like Role Exploration, Issue Resolution and Reorganization support SSM

How many phases are there in Brainstorming ?

- a) Two
- b) Three
- c) Four
- d) All of the mentioned

Who controls the FAST (Facilitated Application Specification Techniques) meeting ?

- a) System Analyst
- b) Scribe
- c) Facilitator
- d) Manager

Arrange the steps in order to represent the conducting of Wideband Delphi Technique.

- i. Conduct a group discussion
 - ii. Conduct another group discussion
 - iii. Present experts with a problem
 - iv. Collect expert opinion anonymously
 - v. Iterate until consensus is reached
 - vi. Feedback a summary of result to each expert
- a) i, iii, ii, iv, v, vi
 - b) iii, i, ii, iv, v, vi
 - c) i, ii, iii, iv, vi, v
 - d) iii, i, iv, vi, ii, v

Which of the following is not a diagram studied in Requirement Analysis ?

- a) Use Cases
- b) Entity Relationship Diagram
- c) State Transition Diagram
- d) Activity Diagram**

How many feasibility studies is conducted in Requirement Analysis ?

- a) Two
- b) Three**
- c) Four
- d) None of the mentioned

How many phases are there in Requirement Analysis ?

- a) Three
- b) Four
- c) Five**
- d) Six

Traceability is not considered in Requirement Analysis.

- a) True
- b) False**

Requirements analysis is critical to the success of a development project.

- a) True**
- b) False
- c) Depends upon the size of project
- d) None of the mentioned

_____ and _____ are the two issues of Requirement Analysis.

- a) Performance, Design
- b) Stakeholder, Developer**
- c) Functional, Non-Functional
- d) None of the mentioned

The requirements that result from requirements analysis are typically expressed from one of three perspectives or views. What is that perspective or view ?

- a) Developer
- b) User
- c) Non-Functional
- d) Physical**

Requirements Analysis is an Iterative Process.

- a) True**
- b) False

Coad and Yourdon suggested _____ selection characteristics that should be used as an analyst considers each potential object for inclusion in the requirement analysis model.

- a) Three
- b) Four
- c) Five
- d) Six

Requirements should specify ‘what’ but not ‘how’.

- a) True
- b) False

Which of the following property does not correspond to a good Software Requirements Specification (SRS) ?

- a) Verifiable
- b) Ambiguous
- c) Complete
- d) Traceable

Which of the following property of SRS is depicted by the statement : “Conformity to a standard is maintained” ?

- a) Correct
- b) Complete
- c) Consistent
- d) Modifiable

The SRS is said to be *consistent* if and only if

- a) its structure and style are such that any changes to the requirements can be made easily while retaining the style and structure
- b) every requirement stated therein is one that the software shall meet
- c) every requirement stated therein is verifiable
- d) no subset of individual requirements described in it conflict with each other

Which of the following statements about SRS is/are true ?

- i. SRS is written by customer
 - ii. SRS is written by a developer
 - iii. SRS serves as a contract between customer and developer
- a) Only i is true
 - b) Both ii and iii are true
 - c) All are true
 - d) None of the mentioned

The SRS document is also known as _____ specification.

- a) black-box
- b) white-box

- c) grey-box
- d) none of the mentioned

Which of the following is included in SRS ?

- a) Cost
- b) Design Constraints**
- c) Staffing
- d) Delivery Schedule

Which of the following is not included in SRS ?

- a) Performance
- b) Functionality
- c) Design solutions**
- d) External Interfaces

Arrange the given sequence to form a SRS Prototype outline as per IEEE SRS Standard.

- i. General description
 - ii. Introduction
 - iii. Index
 - iv. Appendices
 - v. Specific Requirements
- a) iii, i, ii,v, iv
 - b) iii, ii, i, v, iv
 - c) ii, i, v, iv, iii**
 - d) iii, i, ii

Consider the following Statement: "The output of a program shall be given within 10 secs of event X 10% of the time."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Verifiable**
- c) Non-verifiable
- d) Correct

Consider the following Statement: "The data set will contain an end of file character."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Non-verifiable**
- c) Correct
- d) Ambiguous

Consider the following Statement: "The product should have a good human interface."What characteristic of SRS is being depicted here ?

- a) Consistent
- b) Non-Verifiable**

- c) Correct
- d) Ambiguous

Narrative essay is one of the best types of specification document ?

- a) True
- b) False

Which two requirements are given priority during Requirement Management of a product ?

- a) User and Developer
- b) Functional and Non-functional
- c) Enduring and Volatile
- d) All of the mentioned

Considering the example of issue/return of a book, cataloging etc. in a library management.What type of management requirement is being depicted here?

- a) Enduring
- b) Volatile
- c) Both Enduring & Volatile
- d) All of the mentioned

Why is Requirements Management Important ? It is due to the changes

- a) to the environment
- b) in technology
- c) in customer's expectations
- d) in all of the mentioned.

Requirements Management is a prerequisite for Quality-Oriented Development.

- a) True
- b) False

Requirements traceability is one of the most important part requirement management. It may also be referred to as the heart of requirement management.

- a) True
- b) False

Requirements Management has a high initial start-up cost but does not need ongoing funding throughout a project.

- a) True
- b) False

Which of the following is not a Requirement Management workbench tool ?

- a) RTM
- b) DOORS
- c) Rational Suite
- d) RDD 100

Which of the following is a requirement management activity ?

- a) Investigation
- b) Design
- c) Construction and Test
- d) All of the mentioned

What functionality of Requirement Management Tool (RMT) is depicted by the statement: "the tool should be able to automatically detect relations between artifacts. For example information retrieval techniques, monitoring of change history, naming schemas or model transformations."

- a) Automatic Link Detection
- b) Documentation Support
- c) Graphical Representation
- d) Automatic Link Creation and Change

According to a statistical report: "over 30% of all software projects are cancelled before completion and over 70% of the remainder fail to deliver expected features". What must be the reason for such a situation ?

- a) Poor change management
- b) Poor requirements management
- c) Poor quality control
- d) All of the mentioned

Which is the first step in the software development life cycle ?

- a) Analysis
- b) Design
- c) Problem/Opportunity Identification
- d) Development and Documentation

Which tool is use for structured designing ?

- a) Program flowchart
- b) Structure chart
- c) Data-flow diagram
- d) Module

A step by step instruction used to solve a problem is known as

- a) Sequential structure
- b) A List
- c) A plan
- d) An Algorithm

In the Analysis phase, the development of _____ occurs, which is a clear statement of the goals and objectives of the project.

- a) documentation

- b) flowchart
- c) program specification
- d) design

Actual programming of software code is done during the _____ step in the SDLC.

- a) Maintenance and Evaluation
- b) Design
- c) Analysis
- d) Development and Documentation

Who designs and implement database structures.

- a) Programmers
- b) Project managers
- c) Technical writers
- d) Database administrators

_____ is the process of translating a task into a series of commands that a computer will use to perform that task.

- a) Project design
- b) Installation
- c) Systems analysis
- d) Programming

Debugging is:

- a) creating program code
- b) finding and correcting errors in the program code
- c) identifying the task to be computerized
- d) creating the algorithm

In Design phase, which is the primary area of concern ?

- a) Architecture
- b) Data
- c) Interface
- d) All of the mentioned

. The importance of software design can be summarized in a single word which is:

- a) Efficiency
- b) Accuracy
- c) Quality
- d) Complexity

Cohesion is a qualitative indication of the degree to which a module

- a) can be written more compactly
- b) focuses on just one thing

- c) is able to complete its function in a timely manner
- d) is connected to other modules and the outside world

Coupling is a qualitative indication of the degree to which a module

- a) can be written more compactly
- b) focuses on just one thing
- c) is able to complete its function in a timely manner
- d) is connected to other modules and the outside world**

Java packages and Fortran subroutine are examples of_____

- a) Functions
- b) Modules**
- c) Classes
- d) Sub procedures

Which of the property of software modularity is incorrect with respect to benefits software modularity?

- a) Modules are robust
- b) Module can use other modules
- c) Modules Can be separately compiled and stored in a library
- d) Modules are mostly dependent**

_____ is a measure of the degree of interdependence between modules.

- a) Cohesion
- b) Coupling**
- c) None of the mentioned
- d) All of the mentioned

Which of the following is the best type of module coupling?

- a) Control Coupling
- b) Stamp Coupling
- c) Data Coupling**
- d) Content Coupling

Which of the following is the worst type of module coupling?

- a) Control Coupling
- b) Stamp Coupling
- c) External Coupling**
- d) Content Coupling

Which of the following is the worst type of module cohesion?

- a) Logical Cohesion
- b) Temporal Cohesion
- c) Functional Cohesion
- d) Coincidental Cohesion**

Which of the following is the best type of module cohesion?

- a) Functional Cohesion
- b) Temporal Cohesion
- c) Functional Cohesion
- d) Sequential Cohesion

A software engineer must design the modules with the goal of high cohesion and low coupling.

- a) True
- b) False

In what type of coupling, the complete data structure is passed from one module to another?

- a) Control Coupling
- b) Stamp Coupling
- c) External Coupling
- d) Content Coupling

If all tasks must be executed in the same time-span, what type of cohesion is being exhibited?

- a) Functional Cohesion
- b) Temporal Cohesion
- c) Functional Cohesion
- d) Sequential Cohesion

Choose the option that does not define Function Oriented Software Design.

- a) It consists of module definitions
- b) Modules represent data abstraction
- c) Modules support functional abstraction
- d) None of the mentioned

Which of the following is a complementary approach to function-oriented approach ?

- a) Object oriented analysis
- b) Object oriented design
- c) Structured approach
- d) Both Object oriented analysis and design

Function-oriented design techniques starts with functional requirements specified in

- a) SDD
- b) SRS
- c) All of the mentioned
- d) None of the mentioned

Structured Analysis is based on the principles of

- a) Top-down decomposition approach

- b) Divide and conquer principle
- c) Graphical representation of results using DFDs
- d) All of the mentioned**

Which of the following is/are true with respect to functions ?

- a) A function such as "search-book" is represented using a circle
- b) Functions represent some activity
- c) Function symbol is known as a process symbol or a bubble in DFD
- d) All of the mentioned**

Which of the following is not a use of a CASE tool ?

- a) Support structured analysis and design (SA/SD)
- b) Maintains the data dictionary
- c) Checks whether DFDs are balanced or not
- d) It complies with the available system**

What DFD notation is represented by the Rectangle?

- a) Transform
- b) Data Store**
- c) Function
- d) None of the mentioned

Structural decomposition is concerned with function calls.

- a) True**
- b) False

A function-oriented design focuses on the entities in the system rather than the data processing activities.

- a) True
- b) False**

In DFDs, user interactions with the system is denoted by

- a) Circle**
- b) Arrow
- c) Rectangle
- d) Triangle

SA/SD features are obtained from which of the methodologies?

- a) Constantine and Yourdon methodology
- b) DeMarco and Yourdon methodology
- c) Gane and Sarson methodology
- d) All of the mentioned**

Which of the following is not an activity of Structured Analysis (SA) ?

- a) Functional decomposition

- b) Transformation of a textual problem description into a graphic model
- c) All the functions represented in the DFD are mapped to a module structure
- d) All of the mentioned

To arrive at a form which is suitable for implementation in some programming language is the purpose of

- a) Structured Analysis (SA)
- b) Structured Design (SD)
- c) Detailed Design (DD)
- d) None of the mentioned

The results of structured analysis can be easily understood by ordinary customers.

- a) True
- b) False

Structured Analysis is based on the principle of Bottom-Up Approach.

- a) True
- b) False

The context diagram is also known as

- a) Level-0 DFD
- b) Level-1 DFD
- c) Level-2 DFD
- d) All of the mentioned

A directed arc or line in DFD represents

- a) Data Store
- b) Data Process
- c) Data Flow
- d) All of the mentioned

. A DFD is always accompanied by a data dictionary.

- a) True
- b) False

Which of the following is a function of CASE Tool?

- a) Supporting Structured analysis and design (SA/SD)
- b) Maintaining the data dictionary
- c) Checking whether DFDs are balanced or not
- d) All of the mentioned

Data Store Symbol in DFD represents a

- a) Physical file
- b) Data Structure

- c) Logical file
- d) All of the mentioned**

Choose the incorrect statement in terms of Objects.

- a) Objects are abstractions of real-world
- b) Objects can't manage themselves**
- c) Objects encapsulate state and representation information
- d) All of the mentioned

What encapsulates both data and data manipulation functions ?

- a) Object**
- b) Class
- c) Super Class
- d) Sub Class

Which of the following is a mechanism that allows several objects in a class hierarchy to have different methods with the same name?

- a) Aggregation
- b) Polymorphism**
- c) Inheritance
- d) All of the mentioned

Inherited object classes are self-contained.

- a) True
- b) False**

Which of the following points related to Object-oriented development (OOD) is true?

- a) OOA is concerned with developing an object model of the application domain
- b) OOD is concerned with developing an object-oriented system model to implement requirements
- c) All of the mentioned**
- d) None of the mentioned

How is generalization implemented in Object Oriented programming languages?

- a) Inheritance**
- b) Polymorphism
- c) Encapsulation
- d) Abstract Classes

Which of the following is a disadvantage of OOD ?

- a) Easier maintenance
- b) Objects may be understood as stand-alone entities
- c) Objects are potentially reusable components
- d) None of the mentioned**

Which of the following describes "Is-a-Relationship" ?

- a) Aggregation
- b) Inheritance**
- c) Dependency
- d) All of the mentioned

Object that collects data on request rather than autonomously is known as

- a) Active Object
- b) Passive Object**
- c) Multiple instance
- d) None of the mentioned

Objects are executed

- a) sequentially
- b) in Parallel
- c) sequentially & Parallel**
- d) none of the mentioned

How many layers are present in the OO design pyramid?

- a) three
- b) four**
- c) five
- d) one

Which of the following early OOD methods incorporates both a "micro development process" and a "macro development process." ?

- a) Booch method**
- b) Rumbaugh method
- c) Wirfs-Brock method
- d) Coad and Yourdon method

Grady Booch, James Rumbaugh, and Ivar Jacobson combined the best features of their individual object-oriented analysis into a new method for object oriented design known as

- a) HTML
- b) XML
- c) UML**
- d) SGML

A design description of an object is known as a class

- a) instance
- b) object
- c) case
- d) both instance and object**

Which of the following is conceptually similar to objects?

- a) PACKAGE
- b) PROC
- c) PRIVATE
- d) None of the mentioned

A design description in OOD includes

- a) Protocol Description
- b) Implementation Description
- c) Type Description
- d) both Protocol and Implementation Description

Which of the following is not an operation as per OOD algorithms and data structures?

- a) operations that manipulate data in some way
- b) operations that perform a computation
- c) operations that check for syntax errors
- d) operations that monitor an object for the occurrence of a controlling event

Throughout the OOD process, a software engineer should look for every opportunity for creating new design process.

- a) True
- b) False

Which of the following is not project management goal?

- a) Keeping overall costs within budget
- b) Delivering the software to the customer at the agreed time
- c) Maintaining a happy and well-functioning development team
- d) Avoiding customer complaint

Project managers have to assess the risks that may affect a project.

- a) True
- b) False

Which of the following is not considered as a risk in project management?

- a) Specification delays
- b) Product competition
- c) Testing
- d) Staff turnover

The process each manager follows during the life of a project is known as

- a) Project Management
- b) Manager life cycle
- c) Project Management Life Cycle
- d) All of the mentioned

A 66.6% risk is considered as

- a) very low
- b) low
- c) moderate
- d) high**

Which of the following is/are main parameters that you should use when computing the costs of a software development project?

- a) travel and training costs
- b) hardware and software costs
- c) effort costs (the costs of paying software engineers and managers)
- d) all of the mentioned**

Quality planning is the process of developing a quality plan for

- a) team
- b) project**
- c) customers
- d) project manager

Which of the following is incorrect activity for the configuration management of a software system?

- a) Internship management**
- b) Change management
- c) Version management
- d) System management

Identify the sub-process of process improvement

- a) Process introduction
- b) Process analysis**
- c) De-processification
- d) Process distribution

An independent relationship must exist between the attribute that can be measured and the external quality attribute.

- a) True
- b) False**

Which of the following is an important factor that can affect the accuracy and efficacy of estimates?

- a) Project size**
- b) Planning process
- c) Project complexity
- d) Degree of structural uncertainty

What describes the data and control to be processed?

- a) Planning process
- b) Software scope**
- c) External hardware
- d) Project complexity

A number of independent investigators have developed a team-oriented approach to requirements gathering that can be applied to establish the scope of a project called

- a) JAD
- b) CLASS
- c) FAST**
- d) None of the mentioned

CLSS stands for

- a) conveyor line sorting system**
- b) conveyor line sorting software
- c) conveyor line sorting speed
- d) conveyor line sorting specification

The project planner examines the statement of scope and extracts all important software functions which is known as

- a) Association
- b) Decomposition**
- c) Planning process
- d) All of the mentioned

The environment that supports the software project is called

- a) CLSS
- b) SEE**
- c) FAST
- d) CBSE

Which of the following is not an option to achieve reliable cost and effort estimate?

- a) Base estimates on similar projects that have already been completed
- b) Use one or more empirical models for software cost and effort estimation
- c) Use relatively simple decomposition techniques to generate project cost and effort estimates
- d) The ability to translate the size estimate into human effort, calendar time, and dollars**

What can be used to complement decomposition techniques and offer a potentially valuable estimation approach in their own right?

- a) Automated estimation tools
- b) Empirical estimation models**

- c) Decomposition techniques
- d) Both Automated estimation tools and Empirical estimation models

Which of the following is not achieved by an automated estimation tools?

- a) Predicting staffing levels
- b) Predicting software cost
- c) Predicting software schedules
- d) Predicting clients demands**

Software project estimation can never be an exact science, but a combination of good historical data and systematic techniques can improve estimation accuracy.

- a) True**
- b) False

Which of the following are parameters involved in computing the total cost of a software development project?

- a) Hardware and software costs
- b) Effort costs
- c) Travel and training costs
- d) All of the mentioned**

Which of the following costs is not part of the total effort cost?

- a) Costs of networking and communications
- b) Costs of providing heating and lighting office space
- c) Costs of lunch time food**
- d) Costs of support staff

What is related to the overall functionality of the delivered software?

- a) Function-related metrics**
- b) Product-related metrics
- c) Size-related metrics
- d) None of the mentioned

A _____ is developed using historical cost information that relates some software metric to the project cost.

- a) Algorithmic cost modelling**
- b) Expert judgement
- c) Estimation by analogy
- d) Parkinson's Law

It is often difficult to estimate size at an early stage in a project when only a specification is available

- a) True**
- b) False

Which technique is applicable when other projects in the same analogy application domain have been completed?

- a) Algorithmic cost modelling
- b) Expert judgement
- c) Estimation by analogy
- d) Parkinson's Law

Which model assumes that systems are created from reusable components, scripting or database programming?

- a) An application-composition model
- b) A post-architecture model
- c) A reuse model
- d) An early design model

Which of the following states that work expands to fill the time available.

- a) CASE tools
- b) Pricing to win
- c) Parkinson's Law
- d) Expert judgement

Which model is used during early stages of the system design after the requirements have been established?

- a) An application-composition model
- b) A post-architecture model
- c) A reuse model
- d) An early design model

Which model is used to compute the effort required to integrate reusable components or program code that is automatically generated by design or program translation tools?

- a) An application-composition model
- b) A post-architecture model
- c) A reuse model
- d) An early design model

The COCOMO model takes into account different approaches to software development, reuse, etc.

- a) True
- b) False

Which of the following uses empirically derived formulas to predict effort as a function of LOC or FP?

- a) FP-Based Estimation
- b) Process-Based Estimation

- c) COCOMO
- d) Both FP-Based Estimation and COCOMO**

The empirical data that support most estimation models are derived from a vast sample of projects.

- a) True
- b) False**

COCOMO stands for

- a) Constructive cost model**
- b) Comprehensive cost model
- c) Constructive cost estimation model
- d) Complete cost estimation model

Which version of COCOMO states that once requirements have been stabilized, the basic software architecture has been established?

- a) Early design stage model**
- b) Post-architecture-stage model
- c) Application composition model
- d) All of the mentioned

Which model was used during the early stages of software engineering, when prototyping of user interfaces, consideration of software and system interaction, assessment of performance, and evaluation of technology maturity were paramount.

- a) Early design stage model
- b) Post-architecture-stage model
- c) Application composition model**
- d) All of the mentioned

Which one is not a size measure for software product?

- a) LOC
- b) Halstead's program length
- c) Function Count
- d) Cyclomatic Complexity**

.COCOMO was developed initially by

- a) B.Beizer
- b) Rajiv Gupta
- c) B.W.Bohem**
- d) Gregg Rothermal

Estimation of size for a project is dependent on

- a) Cost
- b) Time

- c) Schedule
- d) None of the mentioned**

COCOMO-II was developed at

- a) University of Texas
- b) University of Southern California**
- c) MIT
- d) IIT-Kanpur

Which one is not a stage of COCOMO-II?

- a) Early design estimation model**
- b) Application Composition estimation model
- c) Comprehensive cost estimation model
- d) Post architecture estimation model

What all has to be identified as per risk identification?

- a) Threats
- b) Vulnerabilities
- c) Consequences
- d) All of the mentioned**

Which one is not a risk management activity?

- a) Risk assessment
- b) Risk generation**
- c) Risk control
- d) None of the mentioned

What is the product of the probability of incurring a loss due to the risk and the potential magnitude of that loss?

- a) Risk exposure**
- b) Risk prioritization
- c) Risk analysis
- d) All of the mentioned

What threatens the quality and timeliness of the software to be produced?

- a) Known risks
- b) Business risks
- c) Project risks
- d) Technical risks**

What threatens the viability of the software to be built?

- a) Known risks
- b) Business risks**
- c) Project risks
- d) Technical risks

Which of the following is not a business risk?

- a) building an excellent product or system that no one really wants
- b) losing the support of senior management due to a change in focus or change in people
- c) lack of documented requirements or software scope
- d) losing budgetary or personnel commitment

Which of the following is a systematic attempt to specify threats to the project plan?

- a) Risk identification
- b) Performance risk
- c) Support risk
- d) Risk projection

Which risks are associated with the overall size of the software to be built or modified?

- a) Business impact risks
- b) Process definition risks
- c) Product size risks
- d) Development environment risks

Which risks are associated with constraints imposed by management or the marketplace?

- a) Business impact risks
- b) Process definition risks
- c) Product size risks
- d) Development environment risks

Which of the following term is best defined by the statement:"the degree of uncertainty that the product will meet its requirements and be fit for its intended use."?

- a) Performance risk
- b) Cost risk
- c) Support risk
- d) Schedule risk

Risk management is one of the most important jobs for a

- a) Client
- b) Investor
- c) Production team
- d) Project manager

Which of the following risk is the failure of a purchased component to perform as expected?

- a) Product risk
- b) Project risk
- c) Business risk
- d) Programming risk

Which of the following term is best defined by the statement: "There will be a change of organizational management with different priorities."?

- a) Staff turnover
- b) Technology change
- c) Management change
- d) Product competition

Which of the following term is best defined by the statement: "The underlying technology on which the system is built is superseded by new technology."?

- a) Technology change
- b) Product competition
- c) Requirements change
- d) None of the mentioned

What assess the risk and your plans for risk mitigation and revise these when you learn more about the risk?

- a) Risk monitoring
- b) Risk planning
- c) Risk analysis
- d) Risk identification

Which of the following risks are derived from the organizational environment where the software is being developed?

- a) People risks
- b) Technology risks
- c) Estimation risks
- d) Organizational risks

Which of the following risks are derived from the software or hardware technologies that are used to develop the system?

- a) Managerial risks
- b) Technology risks
- c) Estimation risks
- d) Organizational risks

Which of the following term is best defined by the statement: "Derive traceability information to maximize information hiding in the design."?

- a) Underestimated development time
- b) Organizational restructuring
- c) Requirements changes
- d) None of the mentioned

Which of the following strategies means that the impact of the risk will be reduced?

- a) Avoidance strategies
- b) Minimization strategies

- c) Contingency plans
- d) All of the mentioned

Risk management is now recognized as one of the most important project management tasks.

- a) True
- b) False

Why is decomposition technique required?

- a) Software project estimation is a form of problem solving
- b) Developing a cost and effort estimate for a software project is too complex
- c) All of the mentioned
- d) None of the mentioned

Cost and effort estimation of a software uses only one forms of decomposition, either decomposition of the problem or decomposition of the process.

- a) True
- b) False

If a Direct approach to software project sizing is taken, size can be measured in

- a) LOC
- b) FP
- c) LOC and FP
- d) None of the mentioned

Which software project sizing approach develop estimates of the information domain characteristics?

- a) Function point sizing
- b) Change sizing
- c) Standard component sizing
- d) Fuzzy logic sizing

The expected value for the estimation variable (size), S, can be computed as a weighted average of the optimistic(S_{opt}), most likely (S_m), and pessimistic (S_{pess}) estimates given as

- a) $EV = (S_{opt} + 4S_m + S_{pess})/4$
- b) $EV = (S_{opt} + 4S_m + S_{pess})/6$
- c) $EV = (S_{opt} + 2S_m + S_{pess})/6$
- d) $EV = (S_{opt} + 2S_m + S_{pess})/4$

How many forms exists of Barry Boehm's COCOMO Model?

- a) Two
- b) Three
- c) Four
- d) No form exists

Who suggested the four different approaches to the sizing problem?

- a) Putnam
- b) Myers
- c) Boehm
- d) Putnam and Myers**

In many cases, it is often more cost-effective to acquire, rather than develop, computer software.

- a) True**
- b) False

A make-buy decision is based on whether

- a) The software may be purchased off-the-shelf
- b) “Full-experience” or “Partial-experience” software components should be used
- c) Customer-built software should be developed
- d) All of the mentioned**

Which of the following is not one of the five information domain characteristics of Function Point (FP) decomposition?

- a) External inputs
- b) External outputs
- c) External process**
- d) External inquiries

The project planner must reconcile the estimates based on decomposition techniques to produce a single estimate of effort.

- a) True
- b) False**

Programming language experience is a part of which factor of COCOMO cost drivers?

- a) Personnel Factor**
- b) Product Factor
- c) Platform Factor
- d) Project Factor

If an Indirect approach is taken, then the sizing approach is represented as

- a) LOC
- b) FP**
- c) Fuzzy Logic
- d) LOC and FP

Project management involves the planning, monitoring, and control of the people, process, and events that occur as software evolves from a preliminary concept to an operational implementation.

- a) True
- b) False

Which of the following is not an effective software project management focus?

- a) people
- b) product
- c) popularity
- d) process

PM-CMM stands for

- a) people management capability maturity model
- b) process management capability maturity model
- c) product management capability maturity model
- d) project management capability maturity model

Which of the following is not a project manager's activity?

- a) project control
- b) project management
- c) project planning
- d) project design

A software _____ provides the framework from which a comprehensive plan for software development can be established.

- a) people
- b) product
- c) process
- d) none of the mentioned

Who defines the business issues that often have significant influence on the project?

- a) Practitioners
- b) Project managers
- c) Senior managers
- d) None of the mentioned

Who delivers the technical skills that are necessary to engineer a product or an application?

- a) Practitioners
- b) Project managers
- c) Senior managers
- d) None of the mentioned

Which of the following paradigm attempts to structure a team in a manner that achieves some of the controls associated with the closed paradigm but also much of the innovation that occurs when using the random paradigm?

- a) asynchronous paradigm
- b) open paradigm

- c) closed paradigm
- d) synchronous paradigm

Which of the following is a people-intensive activity?

- a) Problem solving
- b) Organization
- c) Motivation
- d) Project management**

Which paradigm structures a team loosely and depends on individual initiative of the team members?

- a) random paradigm
- b) open paradigm
- c) closed paradigm
- d) synchronous paradigm**

Which of the following is not an approach to software cost estimation?

- a) Empirical
- b) Heuristic
- c) Analytical
- d) Critical**

Which paradigm relies on the natural compartmentalization of a problem and organizes team members to work on pieces of the problem with little active communication among themselves?

- a) random paradigm
- b) open paradigm
- c) closed paradigm**
- d) synchronous paradigm

Who interacts with the software once it is released for production use?

- a) End-users**
- b) Client
- c) Project (technical) managers
- d) Senior managers

Which of the following is not an effective project manager trait?

- a) Problem solving
- b) Managerial identity
- c) Influence and team building
- d) None of the mentioned**

Which type of software engineering team has a defined leader who coordinates specific tasks and secondary leaders that have responsibility for sub tasks?

- a) Controlled decentralized (CD)**

- b) Democratic decentralized (DD)
- c) Controlled centralized (CC)
- d) None of the mentioned

Commitments to unrealistic time and resource estimates may result in

- a) project delay
- b) poor quality work
- c) project failure
- d) all of the mentioned**

Which software engineering team has no permanent leader?

- a) Controlled decentralized (CD)
- b) Democratic decentralized (DD)**
- c) Controlled Centralized (CC)
- d) None of the mentioned

Which of the following is not a project factor that should be considered when planning the structure of software engineering teams?

- a) The difficulty of the problem to be solved
- b) High frustration caused by personal, business, or technological factors that causes friction among team members
- c) The degree of sociability required for the project**
- d) The rigidity of the delivery date

Which of the following is a collection of project coordination technique?

- a) Formal approaches
- b) Formal, interpersonal procedures
- c) Informal, interpersonal procedures
- d) All of the mentioned**

Which activity sits at the core of software requirements analysis?

- a) Problem decomposition
- b) Partitioning
- c) Problem elaboration
- d) All of the mentioned**

Which of the following is not a sign that indicates that an information systems project is in jeopardy?

- a) Software people don't understand their customers needs
- b) Changes are managed poorly
- c) Sponsorship is gained**
- d) Users are resistant

SPMP stands for

- a) Software Project Manager's Plan

- b) Software Project Management Plan
- c) Software Product Management Plan
- d) Software Product Manager's Plan

Which of the following is the reason that software is delivered late?

- a) Changing customer requirements that are not reflected in schedule changes
- b) Technical difficulties that could not have been foreseen in advance
- c) Human difficulties that could not have been foreseen in advance
- d) All of the mentioned

Which of the following is an activity that distributes estimated effort across the planned project duration by allocating the effort to specific software engineering tasks?

- a) Software Macroscopic schedule
- b) Software Project scheduling
- c) Software Detailed schedule
- d) None of the mentioned

Every task that is scheduled should be assigned to a specific team member is termed as

- a) Compartmentalization
- b) Defined milestones
- c) Defined responsibilities
- d) Defined outcomes

What is a collection of software engineering work tasks, milestones, and deliverables that must be accomplished to complete a particular project?

- a) Task set
- b) Degree of milestone
- c) Adaptation criteria
- d) All of the mentioned

Ensuring that no more than the allocated number of people are allocated at any given time in Software Scheduling is known as

- a) Time Allocation
- b) Effort Validation
- c) Defined Milestone
- d) Effort Distribution

What is used to determine the recommended degree of rigor with which the software process should be applied on a project?

- a) Degree of Rigor
- b) Adaptation criteria
- c) Task Set
- d) Both degree of Rigor and adaptation criteria

What evaluates the risk associated with the technology to be implemented as part of project scope?

- a) Concept scoping
- b) Preliminary concept planning**
- c) Technology risk assessment
- d) Customer reaction to the concept

Which of the following is not an adaptation criteria for software projects?

- a) Size of the project
- b) Customers Complaints**
- c) Project staff
- d) Mission criticality

Which of the following is a project scheduling method that can be applied to software development?

- a) PERT
- b) CPM
- c) CMM
- d) Both PERT and CPM**

A technique for performing quantitative analysis of progress is known as

- a) BCWS
- b) EVA**
- c) BAC
- d) CBSE

What is the recommended distribution of effort for a project?

- a) 40-20-40**
- b) 50-20-30
- c) 30-40-30
- d) 50-30-20

A project usually has a timeline chart which was developed by

- a) Henry Gantt**
- b) Barry Boehm
- c) Ivar Jacobson
- d) None of the mentioned

Which of the following categories is part of the output of software process?

- a) computer programs
- b) documents that describe the computer programs
- c) data
- d) all of the mentioned**

Which is a software configuration management concept that helps us to control change without seriously impeding justifiable change?

- a) Baselines
- b) Source code
- c) Data model
- d) None of the mentioned

Software Configuration Management can be administered in several ways. These include

- a) A single software configuration management team for the whole organization
- b) A separate configuration management team for each project
- c) Software Configuration Management distributed among the project members
- d) All of the mentioned

What combines procedures and tools to manage different versions of configuration objects that are created during the software process?

- a) Change control
- b) Version control
- c) SCIs
- d) None of the mentioned

What complements the formal technical review by assessing a configuration object for characteristics that are generally not considered during review?

- a) Software configuration audit
- b) Software configuration management
- c) Baseline
- d) None of the mentioned

Which of the following is the process of assembling program components, data, and libraries, and then compiling and linking these to create an executable system?

- a) System building
- b) Release management
- c) Change management
- d) Version management

Which of the following option is not tracked by configuration management tools?

- a) Tracking of change proposals
- b) Storing versions of system components
- c) Tracking the releases of system versions to customers
- d) None of the mentioned

Which of the following is not a Software Configuration Management Activity?

- a) Configuration item identification
- b) Risk management

- c) Release management
- d) Branch management

The definition and use of configuration management standards is essential for quality certification in

- a) ISO 9000
- b) CMM
- c) CMMI
- d) All of the mentioned**

What involves preparing software for external release and keeping track of the system versions that have been released for customer use?

- a) System building
- b) Release management**
- c) Change management
- d) Version management

Which of the following process ensures that versions of systems and components are recorded and maintained?

- a) Codeline
- b) Configuration control**
- c) Version
- d) Workspace

Which of the following process is concerned with analyzing the costs and benefits of proposed changes?

- a) Change management**
- b) Version management
- c) System building
- d) Release management

Which of the following is not a Version management feature?

- a) Version and release identification
- b) Build script generation**
- c) Project support
- d) Change history recording

Which method recommends that very frequent system builds should be carried out with automated testing to discover software problems?

- a) Agile method**
- b) Parallel compilation method
- c) Large systems method
- d) All of the mentioned

Which of the following is not a build system feature?

- a) Minimal recompilation
- b) Documentation generation
- c) Storage management
- d) Reporting

Which of the following is a collection of component versions that make up a system?

- a) Version
- b) Codeline
- c) Baseline
- d) None of the mentioned

Which of the following is a configuration item?

- a) Design & Test specification
- b) Source code
- c) Log information
- d) All of the mentioned

Which of the following is a part of system release?

- a) electronic and paper documentation describing the system
- b) packaging and associated publicity that have been designed for that release
- c) an installation program that is used to help install the system on target hardware
- d) all of the mentioned

A sequence of baselines representing different versions of a system is known as

- a) System building
- b) Mainline
- c) Software Configuration Item(SCI)
- d) None of the mentioned

Which of the following term is best defined by the statement “The creation of a new codeline from a version in an existing codeline”?

- a) Branching
- b) Merging
- c) Codeline
- d) Mainline

1. Choose the correct option in terms of Issues related to professional responsibility

- a) Confidentiality
- b) Intellectual property rights
- c) Both Confidentiality & Intellectual property rights
- d) Managing Client Relationships

2. "Software engineers should not use their technical skills to *misuse* other people's computers." Here the term *misuse* refers to:

- a) Unauthorized access to computer material
- b) Unauthorized modification of computer material
- c) Dissemination of viruses or other malware
- d) All of the mentioned**

3. Explain what is meant by *PRODUCT* with reference to one of the eight principles as per the ACM/IEEE Code of Ethics ?

- a) The product should be easy to use
- b) Software engineers shall ensure that their products and related modifications meet the highest professional standards possible**
- c) Software engineers shall ensure that their products and related modifications satisfy the client
- d) It means that the product designed /created should be easily available

4. Identify an ethical dilemma from the situations mentioned below:

- a) Your employer releases a safety-critical system without finishing the testing of the system**
- b) Refusing to undertake a project
- c) Agreement in principle with the policies of senior management
- d) All of the mentioned

5. Identify the correct statement: "Software engineers shall

- a) act in a manner that is in the best interests of his expertise and favour."
- b) act consistently with the public interest."**
- c) ensure that their products only meet the SRS."
- d) all of the mentioned

6. Select the incorrect statement: "Software engineers should

- a) not knowingly accept work that is outside your competence."
- b) not use your technical skills to misuse other people's computers."
- c) be dependent on their colleagues."**
- d) maintain integrity and independence in their professional judgment."

7. Efficiency in a software product does not include _____

- a) responsiveness
- b) licensing**
- c) memory utilization
- d) processing time

8. As per an IBM report, “31% of the project get cancelled before they are completed, 53% overrun their cost estimates by an average of 189% and for every 100 projects, there are 94 restarts”. What is the reason for these statistics ?

- a) Lack of adequate training in software engineering
- b) Lack of software ethics and understanding
- c) Management issues in the company
- d) All of the mentioned

9. The reason for software bugs and failures is due to

- a) Software companies
- b) Software Developers
- c) Both Software companies and Developers
- d) All of the mentioned

10. Company has latest computers and state-of-the-art software tools, so we shouldn't worry about the quality of the product.

- a) True
- b) False

1. Which of these are not among the eight principles followed by Software Engineering Code of Ethics and Professional Practice ?

- a) PUBLIC
- b) PROFESSION
- c) PRODUCT
- d) ENVIRONMENT

Answer: d.

2. What is a Software ?

- a) Software is set of programs
- b) Software is documentation and configuration of data
- c) Software is set of programs, documentation & configuration of data
- d) None of the mentioned

Answer: c.

3. Which of these does not account for software failure ?

- a) Increasing Demand
- b) Low expectation

- c) Increasing Supply
- d) Less reliable and expensive

Answer: c.

4. What are attributes of good software ?
- a) Software maintainability
 - b) Software functionality
 - c) Software development
 - d) Software maintainability & functionality

Answer: d.

5. Which of these software engineering activities are not a part of software processes ?
- a) Software dependence
 - b) Software development
 - c) Software validation
 - d) Software specification

Answer: a

6. Which of these is incorrect ?
- a) Software engineering belongs to Computer science
 - b) Software engineering is a part of more general form of System Engineering
 - c) Computer science belongs to Software engineering
 - d) Software engineering is concerned with the practicalities of developing and delivering useful software

Answer: c

7. Which of these is true ?
- a) Generic products and customized products are types of software products
 - b) Generic products are produced by organization and sold to open market
 - c) Customized products are commissioned by particular customer
 - d) All of the mentioned

Answer: d.

8. Which of these does not affect different types of software as a whole?
- a) Heterogeneity

- b) Flexibility
- c) Business and social change
- d) Security

Answer: b

9. The fundamental notions of software engineering does not account for ?

- a) Software processes
- b) Software Security
- c) Software reuse
- d) Software Validation

Answer: d.

10. Which of these is not true ?

- a) Web has led to availability of software services and possibility of developing highly distributed service based systems
- b) Web based systems have led to degradation of programming languages
- c) Web brings concept of software as service
- d) Web based system should be developed and delivered incrementally

Answer: b

1. Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code).

- a) 100-200
- b) 200-400
- c) 400-1000
- d) above 1000

2. RAD stands for

- a) Relative Application Development
- b) Rapid Application Development
- c) Rapid Application Document
- d) None of the mentioned

3. Which one of the following models is not suitable for accommodating any change?

- a) Build & Fix Model
- b) Prototyping Model
- c) RAD Model
- d) Waterfall Model

4. Which is not one of the types of prototype of Prototyping Model?

- a) Horizontal Prototype
- b) Vertical Prototype
- c) Diagonal Prototype
- d) Domain Prototype

5. Which one of the following is not a phase of Prototyping Model?

- a) Quick Design
- b) Coding
- c) Prototype Refinement
- d) Engineer Product

6. Which of the following statements regarding Build & Fix Model is wrong?

- a) No room for structured design
- b) Code soon becomes unfixable & unchangeable
- c) Maintenance is practically not possible
- d) It scales up well to large projects

7. RAD Model has

- a) 2 phases
- b) 3 phase
- c) 5 phases
- d) 6 phases

8. What is the major drawback of using RAD Model?

- a) Highly specialized & skilled developers/designers are required
- b) Increases reusability of components
- c) Encourages customer/client feedback
- d) Increases reusability of components, Highly specialized & skilled developers/designers are required

9. SDLC stands for

- a) Software Development Life Cycle
- b) System Development Life cycle
- c) Software Design Life Cycle
- d) System Design Life Cycle

10. Which model can be selected if user is involved in all the phases of SDLC?

- a) Waterfall Model
- b) Prototyping Model
- c) RAD Model
- d) both Prototyping Model & RAD Model

1. The Unified Modeling Language (UML) has become an effective standard for software modelling. How many different notations does it have ?

- a) Three
- b) Four
- c) Six
- d) Nine

2. Which model in system modelling depicts the dynamic behaviour of the system ?

- a) Context Model
- b) Behavioral Model
- c) Data Model
- d) Object Model

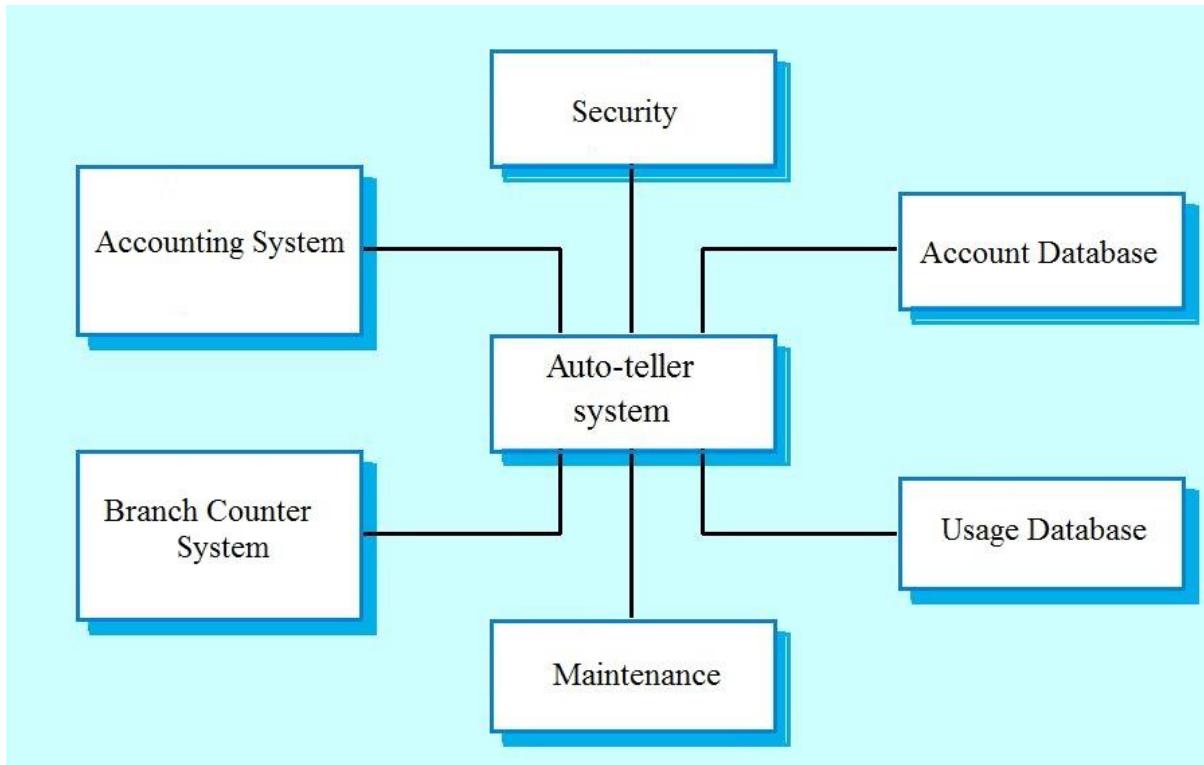
3. Which model in system modelling depicts the static nature of the system ?

- a) Behavioral Model
- b) Context Model
- c) Data Model
- d) Structural Model

4. Which perspective in system modelling shows the system or data architecture.

- a) Structural perspective
- b) Behavioral perspective
- c) External perspective
- d) All of the mentioned

5. Which system model is being depicted by the ATM operations shown below:



- a) Structural model
- b) Context model**
- c) Behavioral model
- d) Interaction model

6. Activity diagrams are used to model the processing of data.

- a) True**
- b) False

7. Model-driven engineering is just a theoretical concept. It cannot be converted into a working/executable code.

- a) True
- b) False**

8. The UML supports event-based modeling using _____ diagrams.

- a) Deployment
- b) Collaboration
- c) State chart**
- d) All of the mentioned

1. Which of the following diagram is not supported by UML considering Data-driven modeling ?
- a) Activity
 - b) Data Flow Diagram (DFD)**
 - c) State Chart
 - d) Component
2. _____ allows us to infer that different members of classes have some common characteristics.
- a) Realization
 - b) Aggregation
 - c) Generalization**
 - d) dependency
3. One creates Behavioral models of a system when you are discussing and designing the system architecture.
- a) True
 - b) False**
4. _____ & _____ diagrams of UML represent Interaction modeling.
- a) Use Case, Sequence**
 - b) Class, Object
 - c) Activity, State Chart
 - d) All of the mentioned
5. Which level of Entity Relationship Diagram (ERD) models all entities and relationships ?
- a) Level 1
 - b) Level 2**
 - c) Level 3
 - d) Level 4
6. _____ classes are used to create the interface that the user sees and interacts with as the software is used.
- a) Controller
 - b) Entity
 - c) Boundary**
 - d) Business

7. Which of the following statement is incorrect regarding the Class-responsibility-collaborator (CRC) modeling ?
- a) All use-case scenarios (and corresponding use-case diagrams) are organized into categories in CRC modelling
 - b) The review leader reads the use-case deliberately
 - c) Only developers in the review (of the CRC model) are given a subset of the CRC model index cards
 - d) All of the mentioned
8. A data object can encapsulates processes and operation as well.
- a) True
 - b) False
1. The two dimensions of spiral model are
- a) diagonal, angular
 - b) radial, perpendicular
 - c) radial, angular
 - d) diagonal, perpendicular
2. The Incremental Model is combination of elements of
- a) Build & FIX Model & Waterfall Model
 - b) Linear Model & RAD Model
 - c) Linear Model & Prototyping Model
 - d) Waterfall Model & RAD Model
3. Model preferred to create client/server applications is
- a) WINWIN Spiral Model
 - b) Spiral Model
 - c) Concurrent Model
 - d) Incremental Model
4. Identify the correct statement with respect to Evolutionary development:
- a) Evolutionary development usually has two flavors; exploratory development, and throw-away prototyping
 - b) Very large projects are usually done using evolutionary development based approach
 - c) It facilitates easy project management, through the high volume of documentation it generates
 - d) Sometimes the construction of a throw-away prototype is not followed by a re-implementation of the software system using a more structured approach

5. Spiral model was developed by

- a) Victor Bisili
- b) Berry Boehm**
- c) Bev Littlewood
- d) Roger Pressman

6. Software evolution does not comprises:

- a) Development activities
- b) Negotiating with client**
- c) Maintenance activities
- d) Re-engineering activities

7. Processes for evolving a software product depend on:

- a) Type of software to be maintained
- b) Development processes used
- c) Skills and experience of the people involved
- d) All of the mentioned**

8. Which technique is applied to ensure the continued evolution of legacy systems ?

- a) Forward engineering
- b) Reverse Engineering
- c) Reengineering
- d) Reverse Engineering and Reengineering**

9. Program modularization and Source code translation are the activities of _____

- a) Forward engineering
- b) Reverse Engineering
- c) Reengineering**
- d) Reverse Engineering and Reengineering

10. Reverse engineering is the last activity in a reengineering project.

- a) True
- b) False**

11. The cost of re-engineering is often significantly less than the costs of developing new software.

- a) True**
- b) False

1. A sociotechnical system is a system that includes
- a) people
 - b) software
 - c) hardware
 - d) all of the mentioned

2. Which layer is missing in the sociotechnical system stack as shown below:



- a) organizational layer
- b) application layer
- c) physical layer
- d) transport layer

3. Consider an example of a system which has a police command and control system that may include a geographical information system to provide details of the location of incidents. What kind of system the example represents?
- a) Complex System
 - b) Technical computer-based system
 - c) Sociotechnical System
 - d) Both Complex and Sociotechnical System

4. Which property of a sociotechnical system varies depending on how the component assemblies are arranged and connected?

- a) security
- b) usability
- c) volume
- d) reliability

5. Which property of a sociotechnical system depends on the technical system components, its operators, and its operating environment?

- a) security
- b) usability
- c) volume
- d) reliability

6. In a sociotechnical system, you need to consider reliability from perspectives namely:

- a) only software reliability
- b) only hardware reliability
- c) hardware and software reliability
- d) hardware, software and operator reliability

7. There are _____ overlapping stages in the lifetime of large and complex sociotechnical systems.

- a) two
- b) three
- c) four
- d) five

8. Sociotechnical systems are deterministic.

- a) True
- b) False

9. What are the two ways to view the human error of a sociotechnical system?

- a) hardware and software approach
- b) management and users approach
- c) person and systems approach
- d) all of the mentioned

10. Human and organizational factors such as organizational structure and politics have a significant effect on the operation of sociotechnical systems.

- a) True
- b) False

1. A characteristic of a software system that can lead to a system error is known as?

- a) Human error or mistake
- b) System fault
- c) System error
- d) System failure

2. An erroneous system state that can lead to system behavior that is unexpected by system users is known as?

- a) Human error or mistake
- b) System fault
- c) System error
- d) System failure

3. An event that occurs at some point in time when the system does not deliver a service as expected by its users is called _____

- a) Human error or mistake
- b) System fault
- c) System error
- d) System failure

4. A chemical plant system may detect excessive pressure and open a relief valve to reduce these pressures before an explosion occurs. What kind of dependability and security issue the example states?

- a) Hazard avoidance
- b) Damage limitation
- c) Hazard detection
- d) Hazard detection and removal

5. An aircraft engine normally includes automatic fire extinguishers. What kind of dependability and security issue the example states?

- a) Hazard avoidance
- b) Damage limitation
- c) Hazard detection
- d) Hazard detection and removal

6. An assessment of the worst possible damage that could result from a particular hazard is known as

- a) Risk

- b) Hazard probability
- c) Hazard severity
- d) Mishap

7. which of the following terms is a measure of the probability that the system will cause an accident?

- a) Risk
- b) Hazard probability
- c) Accident
- d) Damage

8. A weakness in a computer-based system that may be exploited to cause loss or harm is known as?

- a) Vulnerability
- b) Attack
- c) Threat
- d) Exposure

9. A password checking system that disallows user passwords that are proper names or words that are normally included in a dictionary is an example of _____ with respect to security systems.

- a) risk
- b) control
- c) attack
- d) asset

10. The safety of a system is a system attribute that reflects the system's ability to operate, normally or abnormally, without injury to people or damage to the environment.

- a) True
- b) False

1. How many stages are there in Risk-driven requirements specification?

- a) three
- b) four
- c) five
- d) six

2. Consider a case where the system is unavailable and cannot deliver its services to users. What type of failure is being described here?

- a) Loss of service
- b) Incorrect service delivery

- c) System/data corruption
- d) None of the mentioned

3. Consider a case where the failure of the system causes damage to the system itself or its data. What type of failure is being described here?

- a) Loss of service
- b) Incorrect service delivery
- c) System/data corruption
- d) None of the mentioned

4. POFOD stands for

- a) Possibility of failure of data
- b) Probability of failure of data
- c) Possibility of failure on demand
- d) Probability of failure on demand

5. Which reliability metric sets out the probable number of system failures that are likely to be observed relative to a certain time period?

- a) POFOD
- b) ROCOF
- c) AVAIL
- d) None of the mentioned

6. Which of the following is not a functional reliability requirement for a system?

- a) Checking requirements
- b) Recovery requirements
- c) Redundancy requirements
- d) Ambiguous requirements

7. To specify security requirements, one should identify the risks that are to be dealt with.

- a) True
- b) False

8. The aim of preliminary risk analysis and assessment process is to derive security requirements for the system as a whole.

- a) True
- b) False

9. At which stage of risk analysis specification, the additional security requirements take account of the technologies used in building the system and system design and implementation decisions?

- a) Preliminary risk analysis
- b) Life-cycle risk analysis**
- c) Operational risk analysis
- d) All of the mentioned

10. Which reliability requirements are concerned with maintaining copies of the system?

- a) Checking requirements
- b) Recovery requirements**
- c) Redundancy requirements
- d) Ambiguous requirements

1. Which of the following examples does not involve dependability engineering ?

- a) Medical Systems
- b) Power Systems
- c) Library Management**
- d) Telecommunications

2. What is the term for development process organised such that faults in the system are detected and repaired before delivery to the customer ?

- a) Fault Avoidance**
- b) Fault detection
- c) Fault tolerance
- d) None of the mentioned

3. What is the term for a system that is designed such that the faults in the delivered software do not result in system failure ?

- a) Fault Avoidance
- b) Fault detection
- c) Fault tolerance**
- d) None of the mentioned

4. Which process characteristic with respect to Dependability Engineering is mentioned by the statement: "The process should be understandable by people apart from process participants"?

- a) Diverse
- b) Documentable
- c) Auditable**
- d) None of the mentioned

5. Which of the following is not a Protection system ?
- a) System to stop a train if it passes a red light
 - b) System to indicate not returning of the library book
 - c) System to shut down a reactor if temperature/pressure are too high
 - d) None of the mentioned
6. The use of a well-defined, repeatable process is essential if faults in a system are to be minimized.
- a) True
 - b) False
7. Which of the following is a Strategy to achieve Software diversity ?
- a) Different programming languages
 - b) Different design methods and tools
 - c) Explicit specification of different algorithms
 - d) All of the mentioned
8. Exception handling is a mechanism to provide some fault avoidance.
- a) True
 - b) False
9. Which of the following is a bad practice of Dependable programming ?
- a) Limit the visibility of information in a program
 - b) Check array bounds
 - c) Check all inputs for validity
 - d) None of the mentioned
10. What is a Range check?
- a) Check that the input does not exceed some maximum size e.g. 40 characters for a name
 - b) Check that the input falls within a known range
 - c) Use information about the input to check if it is reasonable rather than an extreme value
 - d) None of the mentioned
1. Which of the following is a layer of protection for Security ?
- a) Platform-level protection
 - b) Application-level protection
 - c) Record-level protection
 - d) All of the mentioned

2. Security engineering is only concerned with maintenance of systems such that they can resist malicious attacks.

- a) True
- b) False

3. What are security controls ?

- a) Controls that are intended to ensure that attacks are unsuccessful
- b) Controls that are intended to detect and repel attacks
- c) Controls that are intended to support recovery from problems
- d) All of the mentioned

4. Controls that are intended to repel attacks is analogous to _____ in dependability engineering.

- a) Fault avoidance
- b) Fault tolerance
- c) Fault detection
- d) None of the mentioned

5. Controls that are intended to ensure that attacks are unsuccessful is analogous to _____ in dependability engineering.

- a) Fault avoidance
- b) Fault tolerance
- c) Fault detection
- d) Fault Recovery

6. What is Life cycle risk assessment ?

- a) Risk assessment before the system has been deployed
- b) Risk assessment while the system is being developed
- c) All of the mentioned
- d) None of the mentioned

7. A system resource that has a value and has to be protected is known as

- a) Asset
- b) Control
- c) Vulnerability
- d) None of the mentioned

8. An impersonation of an authorised user is an example of a security threat.

- a) True

b) False

9. The records of each patient that is receiving or has received treatment resembles which security concept ?

- a) Asset
- b) Threat
- c) Vulnerability
- d) Control

10. Circumstances that have potential to cause loss or harm is known as

- a) Attack
- b) Threat
- c) Vulnerability
- d) Control

1. Static Analysis involves executing a program.

- a) True
- b) False

2. Which of the following is a technique covered in Static Analysis ?

- a) Formal verification
- b) Model checking
- c) Automated program analysis
- d) All of the mentioned

3. Select the disadvantage of using Formal methods

- a) Concurrent systems can be analysed to discover race conditions that might lead to deadlock
- b) Producing a mathematical specification requires a detailed analysis of the requirements
- c) They require the use of specialised notations that cannot be understood by domain experts
- d) All of the mentioned

4. Which of the following is incorrect with respect to Model Checking?

- a) Model checking is particularly valuable for verifying concurrent systems
- b) Model checking is computationally very inexpensive
- c) The model checker explores all possible paths through the model
- d) All of the mentioned

5. Choose the fault class in which the following automated static analysis check would fall: "Variables declared but never used".

- a) Control Faults
- b) Data Faults**
- c) Input/Output Faults
- d) Interface faults

6. Choose the fault class in which the following automated static analysis check would fall: "Unreachable code".

- a) Control Faults**
- b) Data Faults
- c) Input/Output Faults
- d) Interface faults

7. Choose the fault class in which the following automated static analysis check would fall: "Non-usage of the results of functions".

- a) Storage management faults
- b) Data Faults
- c) Input/Output Faults
- d) Interface faults**

8. Static analysis is now routinely used in the development of many safety and security critical systems.

- a) True**
- b) False

9. Which level of Static Analysis allows specific rules that apply to a program to be checked ?

- a) Characteristic error checking
- b) User-defined error checking**
- c) Assertion checking
- d) All of the mentioned

10. Choose the fault class in which the following automated static analysis check would fall: "Pointer Arithmetic".

- a) Storage management faults**
- b) Data Faults
- c) Input/Output Faults
- d) Interface faults

1. Software Maintenance includes

 - a) Error corrections
 - b) Enhancements of capabilities
 - c) Deletion of obsolete capabilities
 - d) All of the mentioned**
2. Maintenance is classified into how many categories ?

 - a) two
 - b) three
 - c) four**
 - d) five
3. The modification of the software to match changes in the ever changing environment, falls under which category of software maintenance?

 - a) Corrective
 - b) Adaptive**
 - c) Perfective
 - d) Preventive
4. How many phases are there in Taute Maintenance Model?

 - a) six
 - b) seven
 - c) eight**
 - d) nine
5. What type of software testing is generally used in Software Maintenance?

 - a) Regression Testing**
 - b) System Testing
 - c) Integration Testing
 - d) Unit Testing
6. Regression testing is a very expensive activity.

 - a) True**
 - b) False
7. Selective retest techniques may be more economical than the “retest-all”technique.How many selective retest techniques are there?

 - a) two
 - b) three**
 - c) four
 - d) five
8. Which selective retest technique selects every test case that causes a modified program to produce a different output than its original version?

 - a) Coverage
 - b) Minimization
 - c) Safe**
 - d) Maximization

9. _____ measures the ability of a regression test selection technique to handle realistic applications.
- a) Efficiency
 - b) Precision
 - c) Generality**
 - d) Inclusiveness
10. Which regression test selection technique exposes faults caused by modifications?
- a) Efficiency
 - b) Precision
 - c) Generality
 - d) Inclusiveness**
11. The process of generating analysis and design documents is known as
- a) Software engineering
 - b) Software re-engineering
 - c) Reverse engineering**
 - d) Re-engineering
12. What is a software patch?
- a) Required or Critical Fix
 - b) Emergency Fix**
 - c) Daily or routine Fix
 - d) None of the mentioned
13. Which one of the following is not a maintenance model?
- a) Waterfall model**
 - b) Reuse-oriented model
 - c) Iterative enhancement model
 - d) Quick fix model
14. What does ACT stands for in Boehm model for software maintenance?
- a) Actual change track
 - b) Annual change track
 - c) Annual change traffic**
 - d) Actual change traffic
15. Choose the suitable options with respect to regression testing.
- a) It helps in development of software
 - b) It helps in maintenance of software
 - c) It helps in development & maintenance of software**
 - d) none of the mentioned
16. What are legacy systems?
- a) new systems
 - b) old systems**
 - c) under-developed systems
 - d) none of the mentioned

17. Which of the following manuals is not a user documentation?
- a) Beginner's Guide
 - b) Installation guide
 - c) Reference Guide
 - d) SRS**
18. Which of the following manuals is a user documentation?
- a) SRS -Software Requirement Specification
 - b) SDD -Software Design Document
 - c) System Overview**
 - d) None of the mentioned
19. The process of transforming a model into source code is known as
- a) Forward engineering**
 - b) Reverse engineering
 - c) Re-engineering
 - d) Reconstructing
20. How many stages are there in Iterative-enhancement model used during software maintenance?
- a) two
 - b) three**
 - c) four
 - d) five
- 21.** Which of the following is a field related to certification ?
- a) Person
 - b) Process
 - c) Product
 - d) All of the mentioned**
22. Which of the following is a software process certification ?
- a) JAVA Certified
 - b) IBM Certified
 - c) ISO-9000**
 - d) Microsoft Certified
23. Which standard is followed in aviation industry ?
- a) CTRADO-172B
 - b) RTCADO-178B**
 - c) RTRADO-178B
 - d) CTCADO-178B
24. How many levels, does the DO-178B certification targeted by RTCADO-178B has ?
- a) two
 - b) three
 - c) four
 - d) five**

25. Third Party Certification for software standards is based on
- a) UI 1998, Second Edition
 - b) UT 1998, Second Edition
 - c) UI 1992, Second Edition
 - d) UI 1996, Second Edition
26. What are the goals to gain Laboratory Accreditation ?
- a) Increase availability of testing services through third-party laboratories
 - b) Increase availability of testing market to encourage development of software testing industry
 - c) Reduce cost by increasing supply of testing services
 - d) All of the mentioned
27. National Voluntary Laboratory Accreditation Program approve accreditation in
- a) Environmental standards
 - b) Computers and electronics
 - c) Product testing
 - d) All of the mentioned
28. CSTE stands for
- a) Certified Software Technology
 - b) Certified Software Tester
 - c) Certified Software Trainee
 - d) None of the mentioned
29. CSQA stands for
- a) Certified Software Quality Analyst
 - b) Certified Software Quality Approved
 - c) Certified Software Quality Acclaimed
 - d) None of the mentioned
30. Which of the following companies provide certifications for their own products?
- a) CISCO
 - b) ORACLE
 - c) Microsoft
 - d) All of the mentioned
31. “Robustness” answers which of the following description?
- a) CASE tools be used to support the process activities
 - b) Process errors are avoided or trapped before they result in product errors
 - c) Defined process is acceptable and usable by the engineers responsible for producing the software
 - d) Process continues in spite of unexpected problems
32. Process improvement is the set of activities, methods, and transformations that developers use to develop and maintain information systems.
- a) True
 - b) False

33. "Understandability" answers which of the following description?

- a) **The extent to which the process is explicitly defined**
- b) Process errors are avoided or trapped before they result in product errors
- c) Defined process is acceptable and usable by the engineers responsible for producing the software product
- d) Process continues in spite of unexpected problems

34. How many stages are there in process improvement?

- a) **three**
- b) four
- c) five
- d) six

35. In which stage of process improvement bottlenecks and weaknesses are identified?

- a) Process measurement
- b) **Process analysis**
- c) Process change
- d) None of the mentioned

36. Prototypes and 4GL business systems are categorized under which process?

- a) **Informal**
- b) Managed
- c) Methodical
- d) Supported

37. The documentation of a process which records the tasks, the roles and the entities used is called

- a) Process metric
- b) Process analysis
- c) **Process modelling**
- d) None of the mentioned

38. It is always best to start process analysis with a new test model.

- a) True
- b) **False**

39. What is a tangible output of an activity that is predicted in a project plan?

- a) **Deliverable**
- b) Activity
- c) Condition
- d) Process

40. What is often undefined and is left to the ingenuity of the project managers and engineers?

- a) Role
- b) **Exception**
- c) Activity
- d) Process

41. Which of the following is not a part of process change?
- a) Introducing new practices, methods or processes
 - b) Introducing new team members to existing project**
 - c) Introducing or removing deliverable
 - d) Introducing new roles or responsibilities
42. The Capability Maturity Model (CMM) is a continuous model.
- a) True
 - b) False**
43. The CMMI assessment is based on a x-point scale. What is the value of x?
- a) 0
 - b) 2
 - c) 4
 - d) 6**
44. Which of the following is not included in failure costs?
- a) rework
 - b) repair
 - c) failure mode analysis
 - d) none of the mentioned**
45. Which requirements are the foundation from which quality is measured?
- a) Hardware
 - b) Software**
 - c) Programmers
 - d) None of the mentioned
46. Which of the following is not a SQA plan for a project?
- a) evaluations to be performed
 - b) amount of technical work**
 - c) audits and reviews to be performed
 - d) documents to be produced by the SQA group
47. Degree to which design specifications are followed in manufacturing the product is called
- a) Quality Control
 - b) Quality of conformance**
 - c) Quality Assurance
 - d) None of the mentioned
48. Which of the following is not included in External failure costs?
- a) testing**
 - b) help line support
 - c) warranty work
 - d) complaint resolution
49. Which of the following is not an appraisal cost in SQA?
- a) inter-process inspection
 - b) maintenance**

- c) quality planning**
- d) testing
50. Who identifies, documents, and verifies that corrections have been made to the software?
- Project manager
 - Project team
 - c) SQA group**
 - All of the mentioned
51. The primary objective of formal technical reviews is to find _____ during the process so that they do not become defects after release of the software.
- a) errors**
- equivalent faults
 - failure cause
 - none of the mentioned
- 52.** What is not included in prevention costs?
- quality planning
 - formal technical reviews
 - test equipment
 - d) equipment calibration and maintenance**
53. Software quality assurance consists of the auditing and reporting functions of management.
- a) True**
- b) False
54. CMM stands for
- Capability Management Module
 - Conservative Maturity Model
 - Capability Maturity Module
 - d) Capability Maturity Model**
55. The ISO 9000 series of standards is a program that can be used for external quality assurance purposes.
- True
 - b) False**
56. According to ISO 9001, the causes of nonconforming product should be
- deleted
 - eliminated
 - identified
 - d) eliminated and identified**
57. CO policy in CMM means
- The leadership practices in Commitment to Perform
 - The organizational structure (groups) practices in Ability to Perform
 - c) The policy practices in Commitment to Perform**
 - The planning practices in Commitment to Perform

58. ISO 9001 is not concerned with _____ of quality records.
- a) collection
 - b) maintenance
 - c) verification**
 - d) dis-positioning
59. Which of the following is not a maturity level in CMM?
- a) Design**
 - b) Repeatable
 - c) Managed
 - d) Optimizing
60. In CMM, the life cycle activities of requirements analysis, design, code, and test are described in
- a) Software Product Engineering**
 - b) Software Quality Assurance
 - c) Software Subcontract Management
 - d) Software Quality Management
61. Which of the following requires design control measures, such as holding and recording design reviews and qualification tests?
- a) CMM
 - b) ISO 9001
 - c) ISO 9000-3**
 - d) None of the mentioned
62. The CMM emphasizes
- a) continuous process improvement
 - b) the need to record information**
 - c) the need to accept quality system
 - d) none of the mentioned
63. _____ states that, where appropriate, adequate statistical techniques are identified and used to verify the acceptability of process capability and product characteristics.
- a) ISO 9001**
 - b) ISO 9000-4
 - c) CMM
 - d) All of the mentioned
64. Object oriented analysis and design can be handled by the one who knows UML.
- a) True
 - b) False**
65. At Conceptual level Class diagrams should include
- a) operations only
 - b) attributes only**
 - c) both operations and attributes
 - d) none of the mentioned

66. Select the statement true for activity diagrams.
- a) They can be used to discover parallel activities
 - b) They are used to depict workflow for a particular business activity
 - c) Activity diagram do not tell who does what and are difficult to trace back to object models
 - d) All of the mentioned**
67. Constraints can be represented in UML by
- a) {text}**
 - b) [text].
 - c) Constraint
 - d) None of the mentioned
68. What is an object?
- a) An object is an instance of a class**
 - b) An object includes encapsulation of data
 - c) An object is not an instance of a class
 - d) All of the mentioned
69. What is an abstract class?
- a) A class that has direct instances, but whose descendants may have direct instances
 - b) A class that has direct instances, but whose descendants may not have direct instances
 - c) A class that has no direct instances, but whose descendants may have direct instances**
 - d) All of the mentioned
70. Which of the following are the valid relationships in Use Case Diagrams
- a) Generalization
 - b) Include
 - c) Extend
 - d) All of the mentioned**
71. Which of the following statement(s) is true about interaction diagrams?
- a) Interaction diagrams are at their best when they deal with one main design flow and not multiple variants that can happen
 - b) Interaction diagrams are good at designing part or all of one use case's functionality across multiple objects
 - c) Interaction diagrams allow the analyst to show iteration and conditional execution for messaging between objects
 - d) All of the mentioned**
72. UML interfaces are used to:
- a) specify required services for types of objects**
 - b) program in Java, but not in C++ or Smalltalk
 - c) define executable logic to reuse across classes
 - d) define an API for all classes

73. Referring to the attached diagram, the arrow indicates:

- a) **Navigability**
- b) Dependency
- c) Association
- d) Refers to

74. Which of the following is a building block of UML?

- a) Things
- b) Relationships
- c) Diagrams
- d) **All of the mentioned**

75. Classes and interfaces are a part of

- a) **Structural things**
- b) Behavioral things
- c) Grouping things
- d) Annotational things

76. What is a collection of operations that specify a service of a class or component?

- a) Use Case
- b) Actor
- c) **Interface**
- d) Relationship

77. What is a physical element that exists at runtime in UML?

- a) **A node**
- b) An interface
- c) An activity
- d) None of the mentioned

78. What can be requested from any object of the class to affect behavior?

- a) object
- b) attribute
- c) **operation**
- d) instance

79. Which things are dynamic parts of UML models?

- a) Structural things
- b) **Behavioral things**
- c) Grouping things
- d) Annotational things

80. Which diagram in UML emphasizes the time-ordering of messages?

- a) Activity
- b) **Sequence**
- c) Collaboration
- d) Class

81. Object diagram captures the behavior of a single use case.
- a) True
 - b) False**
82. If you are working on real-time process control applications or systems that involve concurrent processing, you would use a
- a) Activity diagram
 - b) Sequence diagram
 - c) Statechart diagram**
 - d) Object diagram
83. Which diagram shows the configuration of run-time processing elements?
- a) Deployment diagram**
 - b) Component diagram
 - c) Node diagram
 - d) ER-diagram
84. Which things in UML are the explanatory parts of UML models?
- a) Structural things
 - b) Behavioral things
 - c) Grouping things
 - d) Annotational things**
85. Which of the following term is best defined by the statement:"a structural relationship that specifies that objects of one thing are connected to objects of another"?
- a) Association**
 - b) Aggregation
 - c) Realization
 - d) Generalization
86. What refers to the value associated with a specific attribute of an object and to any actions or side?
- a) Object
 - b) State**
 - c) Interface
 - d) None of the mentioned
87. Which of the following UML diagrams has a static view?
- a) Collaboration
 - b) Use case**
 - c) State chart
 - d) Activity

88. What type of core-relationship is represented by the symbol in the figure below?



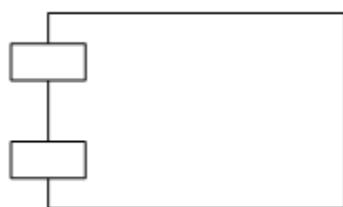
a) Aggregation

b) Dependency

c) Generalization

d) Association

89. Which core element of UML is being shown in the figure?



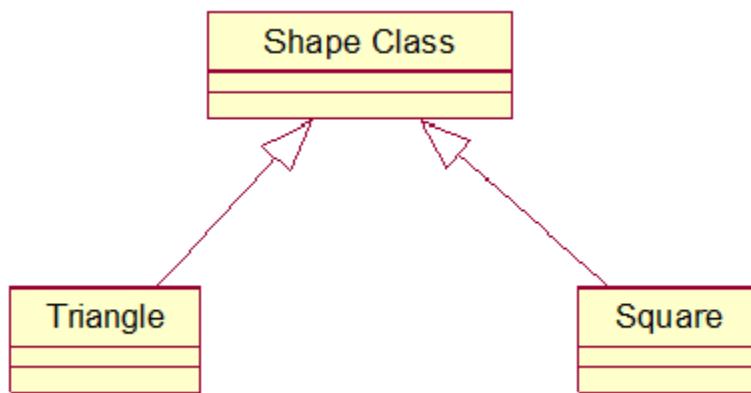
a) Node

b) Interface

c) Class

d) Component

90. What type of relationship is represented by Shape class and Square ?



a) Realization

b) Generalization

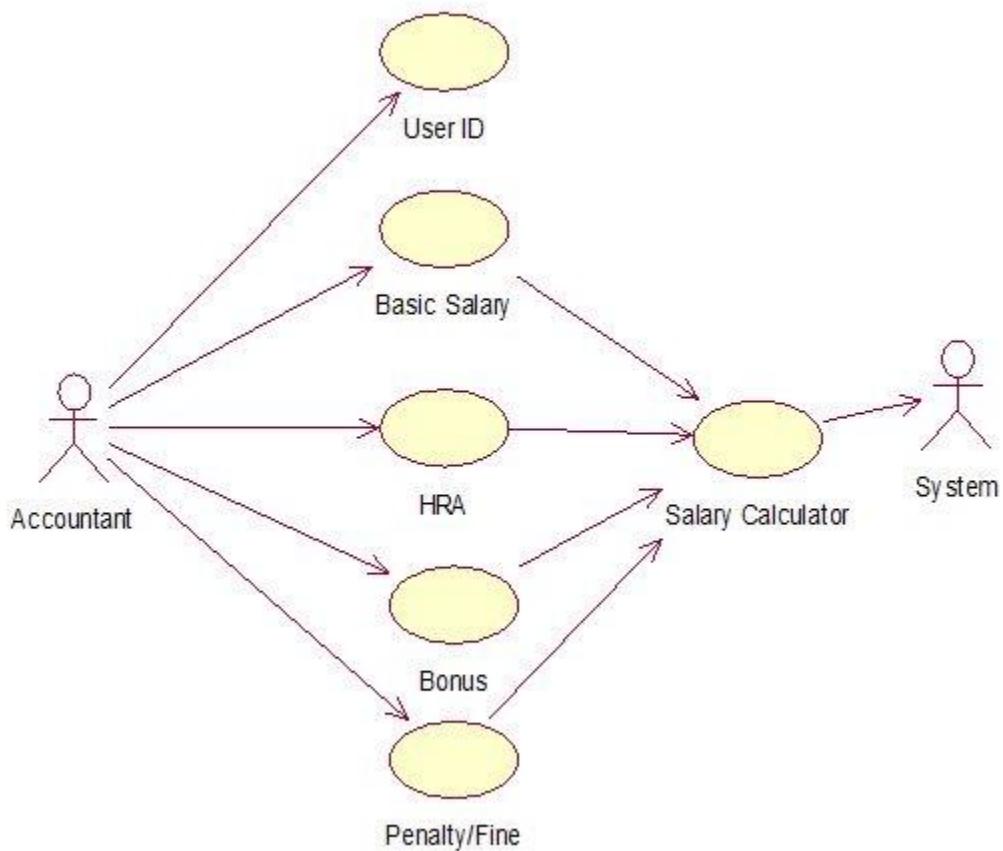
c) Aggregation

d) Dependency

91. Which diagram in UML shows a complete or partial view of the structure of a modeled system at a specific time?

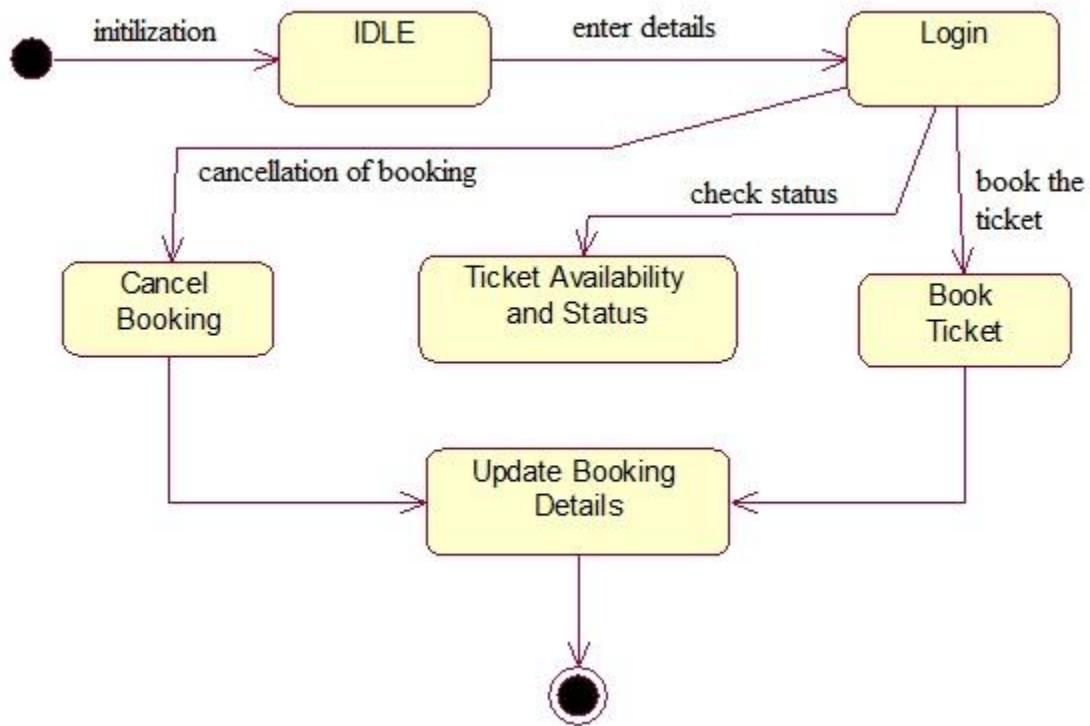
- a) Sequence Diagram
 - b) Collaboration Diagram
 - c) Class Diagram
 - d) Object Diagram**
92. Interaction Diagram is a combined term for
- a) Sequence Diagram + Collaboration Diagram**
 - b) Activity Diagram + State Chart Diagram
 - c) Deployment Diagram + Collaboration Diagram
 - d) None of the mentioned
93. Structure diagrams emphasize the things that must be present in the system being modeled.
- a) True**
 - b) False
94. Which of the following diagram is time oriented?
- a) Collaboration
 - b) Sequence**
 - c) Activity
 - d) None of the mentioned
95. How many diagrams are here in Unified Modelling Language?
- a) six
 - b) seven
 - c) eight
 - d) nine**

96. Which UML diagram is shown below?



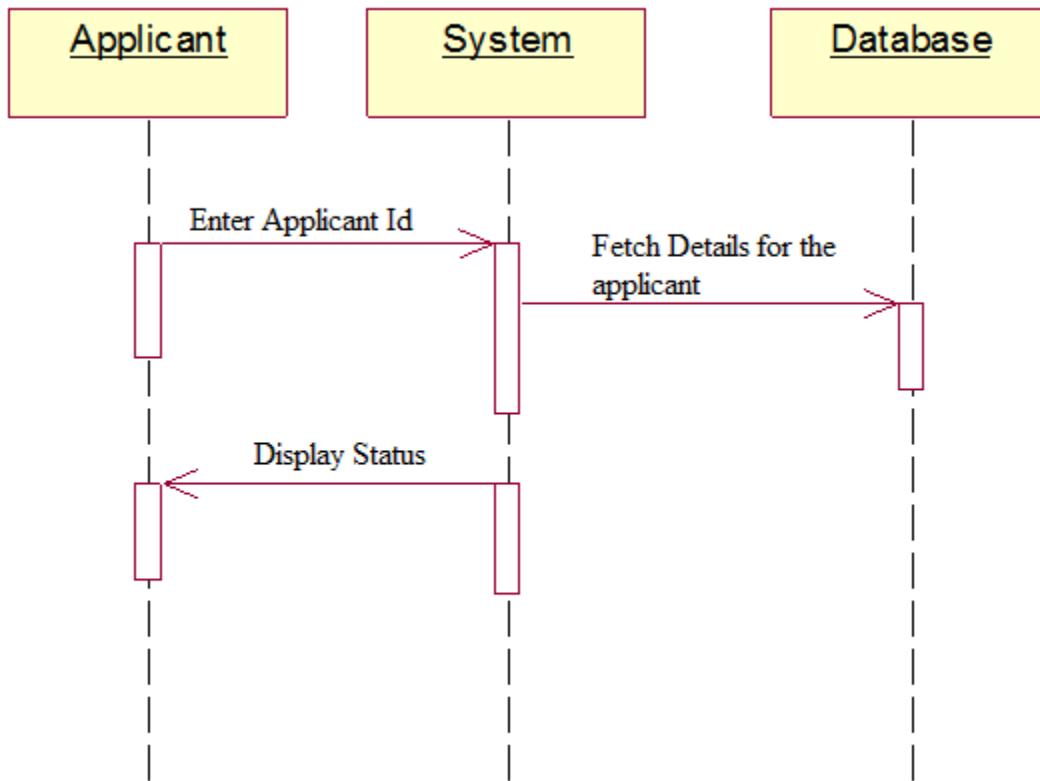
- a) Use Case
b) Collaboration Diagram

97. Which UML diagram is shown below?



- a) Use Case
- b) State Chart**
- c) Activity
- d) Object Diagram

98. 4. Which UML diagram is shown below?



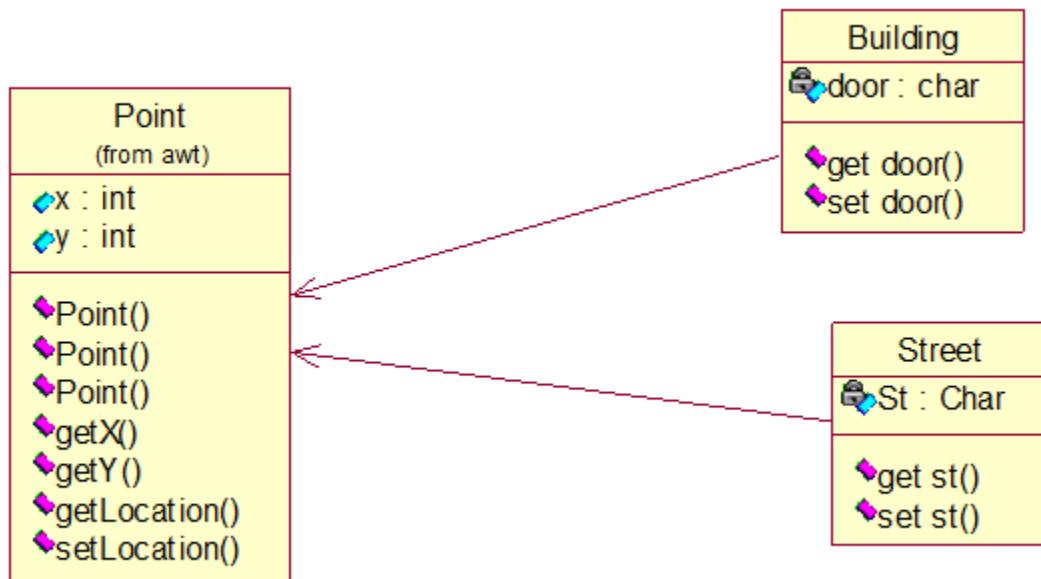
- a) Use Case
- b) Collaboration Diagram
- c) **Sequence Diagram**

99. Which UML diagram's symbols are shown below?



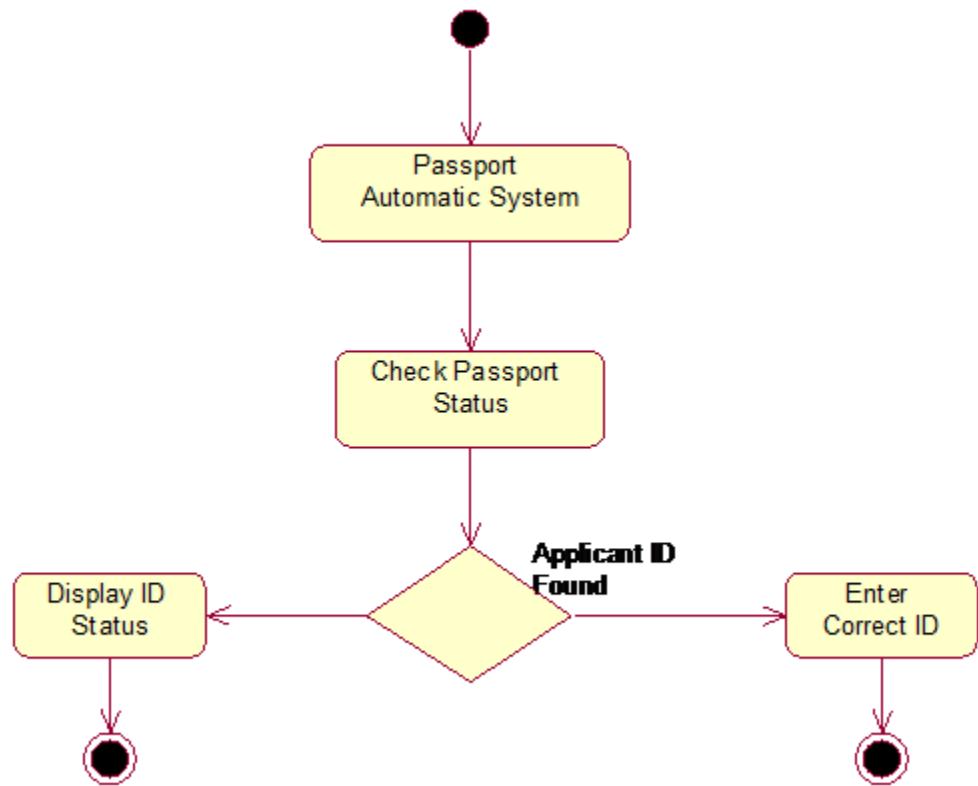
- a) **Deployment diagram**
- b) Collaboration Diagram
- c) Component Diagram
- d) Object Diagram

100. Which UML diagram is shown below?



- a) Deployment diagram
- b) Collaboration Diagram
- c) Object Diagram
- d) Class Diagram**

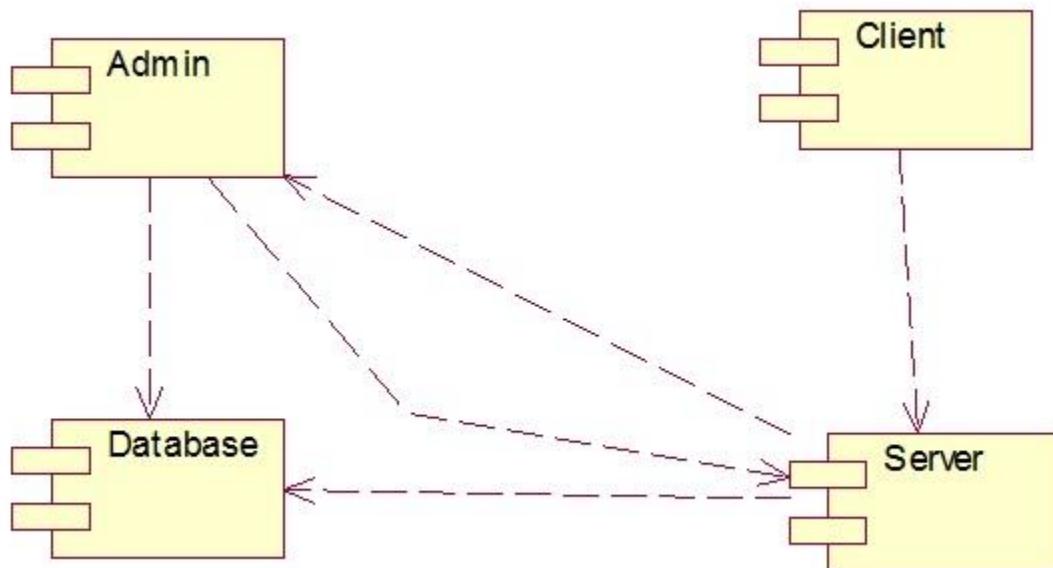
101. Which UML diagram is shown below?



a) Activity

b) State chart

102. Which UML diagram is shown below?



a) Component

- b) Deployment
- c) Use Case
- d) DFD

103. Which of the following is not needed to develop a system design from concept to detailed object-oriented design?

- a) Designing system architecture
- b) Developing design models
- c) Specifying interfaces

d) Developing a debugging system

104. Which of the following is a dynamic model that shows how the system interacts with its environment as it is used?

- a) system context model
- b) interaction model**
- c) environmental model
- d) both system context and interaction

105. Which of the following is a structural model that demonstrates the other systems in the environment of the system being developed?

a) system context model

- b) interaction model
- c) environmental model
- d) both system context and interaction

106. Which of the following come under system control?

- a) Reconfigure
- b) Shutdown
- c) Powersave
- d) All of the mentioned**

107. We use _____ where various parts of system use are identified and analyzed in turn.

- a) tangible entities
- b) scenario-based analysis**
- c) design-based analysis
- d) none of the mentioned

108. Which model describes the static structure of the system using object classes and their relationships?

- a) Sequence model
- b) Subsystem model
- c) Dynamic model
- d) Structural model**

109. Which model shows the flow of object interactions?

- a) Sequence model**
- b) Subsystem model

- c) Dynamic model
- d) Both Sequence and Dynamic model

110. If the system state is Shutdown then it can respond to which of the following message?

- a) restart()
- b) reconfigure()
- c) powerSave()

d) all of the mentioned

111. Which message is received so that the system moves to the Testing state, then the Transmitting state, before returning to the Running state?

- a) signalStatus()
- b) remoteControl()
- c) reconfigure()

d) reportStatus()

112. Open source development involves making the source code of a system publicly available.

- a) True**
- b) False

113. Which of the following is not the primary objectives in the analysis model?

- a) describing the customer complaints
- b) establishing a basis for the creation of a software design
- c) defining a set of requirements that can be validated once the software is built

d) none of the mentioned

114. A description of each function presented in the DFD is contained in a _____

- a) data flow
- b) process specification**
- c) control specification
- d) data store

115. Which diagram indicates the behaviour of the system as a consequence of external events?

- a) data flow diagram
- b) state transition diagram**
- c) control specification diagram
- d) workflow diagram

116. A data model contains

- a) data object
- b) attributes
- c) relationships

d) all of the mentioned

117. _____ defines the properties of a data object and take on one of the three different characteristics.

- a) data object

b) attributes

- c) relationships
- d) data object and attributes

118. The _____ of a relationship is 0 if there is no explicit need for the relationship to occur or the relationship is optional.

a) modality

- b) cardinality
- c) entity
- d) structured analysis

119. A _____ is a graphical representation that depicts information flow and the transforms that are applied as data moves from input to output.

- a) data flow diagram
- b) state transition diagram**
- c) control specification
- d) workflow diagram

120. A data condition occurs whenever a data is passed to an input element followed by a processing element and the result in control output.

a) True

- b) False

121. The _____ enables the software engineer to develop models of the information domain and functional domain at the same time

- a) data flow diagram**
- b) state transition diagram
- c) control specification
- d) activity diagram

122. The _____ contains a state transition diagram that is a sequential specification of behavior.

- a) data flow diagram
- b) state transition diagram
- c) control specification**
- d) workflow diagram

123. Which of the following is not a construct?

- a) sequence
- b) condition
- c) repetition
- d) selection**

124. Which of the following steps is applied to develop a decision table?

- a) List all actions that can be associated with a specific procedure
- b) List all conditions during execution of the procedure
- c) Define rules by indicating what action(s) occurs for a set of conditions
- d) All of the mentioned**

125. _____ is a pidgin(simplified version of a language that develops as a means of communication between two or more groups that do not have a language in common)

- a) program design language
- b) structured English
- c) pseudocode

d) all of the mentioned

126. Which of the following term is best defined by the statement:"The ability to represent local and global data is an essential element of component-level design."?

a) Data representation

- b) Logic verification
- c) "Code-to" ability
- d) Automatic processing

127. A software component

- a) Implements some functionality
- b) Has explicit dependencies through provides and required interfaces
- c) Communicates through its interfaces only

d) All of the mentioned

128. Which diagram evolved from a desire to develop a procedural design representation that would not allow violation of the structured constructs?

- a) State transition diagram

b) Box diagram

- c) ER diagram
- d) None of the mentioned

129. A _____ executes the loop task first, then tests a condition and repeats the task until the condition fails.

a) repeat until

- b) condition
- c) do while tests
- d) if then-else

130. Which of the following is not a characteristics of box diagram?

- a) functional domain
- b) arbitrary transfer of control is impossible
- c) recursion is easy to represent

d) providing a notation that translates actions and conditions

131. The_____ is represented as two processing boxes connected by an line (arrow) of control.

- a) Repetition
- b) Sequence**
- c) Condition
- d) None of the mentioned

132. Which of the following term is best defined by the statement "Notation that can be input directly into a computer-based development system offers significant benefits."?

a) Machine readability

- b) Maintainability
- c) Structure enforcement
- d) Overall simplicity

133. Which of the following is golden rule for interface design?

- a) Place the user in control
- b) Reduce the user's memory load
- c) Make the interface consistent

d) All of the mentioned

134. Which of the following is not a design principle that allow the user to maintain control?

- a) Provide for flexible interaction
- b) Allow user interaction to be interrupt-able and undo-able
- c) Show technical internals from the casual user**
- d) Design for direct interaction with objects that appear on the screen

135. Which of the following is not a user interface design process?

- a) User, task, and environment analysis and modeling
- b) Interface design
- c) Knowledgeable, frequent users**
- d) Interface validation

136. When users are involved in complex tasks, the demand on _____ can be significant.

- a) short-term memory**
- b) shortcuts
- c) objects that appear on the screen
- d) all of the mentioned

137. Which of the following option is not considered by the Interface design?

- a) the design of interfaces between software components
- b) the design of interfaces between the software and human producers and consumers of information
- c) the design of the interface between two computers**
- d) all of the mentioned

138. A software might allow a user to interact via

- a) keyboard commands
- b) mouse movement
- c) voice recognition commands

d) all of the mentioned

139. A software engineer designs the user interface by applying an iterative process that draws on predefined design principles.

a) True

b) False

140. What incorporates data, architectural, interface, and procedural representations of the software?

- a) design model
- b) user's model
- c) mental image
- d) system image

141. What establishes the profile of end-users of the system?

- a) design model
- b) user's model
- c) mental image
- d) system image

142. What combines the outward manifestation of the computer-based system , coupled with all supporting information that describe system syntax and semantics?

- a) mental image
- b) interface design
- c) system image
- d) interface validation

143. What do you understand by V&V in software testing?

- a) Verified Version
- b) Version Validation
- c) Verification and Validation
- d) Version Verification

144. In static test techniques, behavioral and performance properties of the program are observed.

- a) True
- b) False

145. Which granularity level of testing checks the behavior of module cooperation?

- a) Unit Testing
- b) Integration Testing
- c) Acceptance Testing
- d) Regression Testing

146. Which test refers to the retesting of a unit, integration and system after modification, in order to ascertain that the change has not introduced new faults?

- a) Regression Test
- b) Smoke Test
- c) Alpha Test
- d) Beta Test

147. Which of the following is a black box testing strategy?

- a) All Statements Coverage
- b) Control Structure Coverage
- c) Cause-Effect Graphs
- d) All Paths Coverage

148. A set of inputs, execution preconditions and expected outcomes is known as a
- a) Test plan
 - b) Test case**
 - c) Test document
 - d) Test Suite

149. In which test design each input is tested at both ends of its valid range and just outside its valid range?

- a) Boundary value testing**
- b) Equivalence class partitioning
- c) Boundary value testing AND Equivalence class partitioning
- d) Decision tables

150. A white box test scales up well at different granularity levels of testing.

- a) True
- b) False**

151. When does the testing process stops?

- a) When resources (time and budget) are over
- b) When some coverage is reached
- c) When quality criterion is reached**
- d) Testing never ends

152. Which of the following is not a part of a test design document?

- a) Test Plan
- b) Test Design Specification
- c) Test Case Specification
- d) Test Log**

153. Specifying a set of test cases or test paths for each item to be tested at that level is known as

- a) Test case generation
- b) Test case design
- c) ALL of the mentioned**
- d) None of the mentioned

154. Acceptance & system test planning are a part of architectural design.

- a) True
- b) False**

155. PRD stands for

- a) Product Requirement Document**
- b) Project Requirement Document
- c) Product Restrictions Document
- d) None of the mentioned

156. Which mechanism is applied to use a design pattern in an OO system?

- a) Inheritance
- b) Composition

c) All of the mentioned

d) None of the mentioned

157. Design patterns does not follow the concept of software reuse.

a) True

b) False

158. The use of design patterns for the development of object-oriented software has important implications for

a) Component-based software engineering

b) Reusability in general

c) All of the mentioned

d) None of the mentioned

159. Which of the following is a design pattern?

a) Behavioral

b) Structural

c) Abstract Factory

d) All of the mentioned

160. You want to minimize development cost by reusing methods? Which design pattern would you choose?

a) Adapter Pattern

b) Singleton Pattern

c) Delegation pattern

d) Immutable Pattern

161. You want to avoid multiple inheritance. Which design pattern would you choose?

a) Abstraction-Occurrence Pattern

b) Player-Role Pattern

c) General Hierarchy Pattern

d) Singleton Pattern

162. The recurring aspects of designs are called design

a) patterns

b) documents

c) structures

d) methods

163. Design pattern is a solution to a problem that occurs repeatedly in a variety of contexts.

a) True

b) False

164. Which pattern prevents one from creating more than one instance of a variable?

a) Factory Method

b) Singleton

c) Observer

d) None of the mentioned

165. Facade pattern promotes weak coupling between subsystem and its clients.

a) True

b) False

166. Which design pattern defines one-to-many dependency among objects?

a) Singleton pattern

b) Facade Pattern

c) **Observer pattern**

d) Factory method pattern

167. Facade pattern couples a subsystem from its clients.

a) True

b) **False**

168. In factory method pattern, the framework must instantiate classes but it only knows about the abstract classes, which it cannot initiate. How would one solve this problem?

a) encapsulating the knowledge of which document subclass to is to be created and

b) moving this knowledge out of the framework

c) instantiating the application specific documents without knowing their class

d) **all of the mentioned**

169. Reuse-based software engineering is a software engineering strategy where the development process is geared to reusing existing software.

a) True

b) False

170. The open source movement has meant that there is a huge reusable code base available at

a) free of cost

b) **low cost**

c) high cost

d) short period of time

171. Consider the example and categorize it accordingly, “A pattern-matching system developed as part of a text-processing system may be reused in a database management system”.

a) Application system reuse

b) **Component reuse**

c) Object and function reuse

d) None of the mentioned

172. COTS stands for

a) **Commercial Off-The-Shelf systems**

b) Commercial Off-The-Shelf states

c) Commercial Off-The-System state

d) None of the mentioned

173. COTS product reuse means

a) Class and function libraries that implement commonly used abstractions are available for reuse

- b) Shared components are woven into an application at different places when the program is compiled
 - c) Large-scale systems that encapsulate generic business functionality and rules are configured for an organization
- d) Systems are developed by configuring and integrating existing application systems**
174. .NET are specific to which platform?
- a) Java
 - b) Mac-OS
 - c) Microsoft**
 - d) LINUX
175. Which of the following is a generic structure that is extended to create a more specific subsystem or application?
- a) Software reuse
 - b) Object-oriented programming language
 - c) Framework**
 - d) None of the mentioned
176. “An ordering system may be adapted to cope with a centralized ordering process in one company and a distributed process in another.” Which category the example belong to?
- a) Process specialization**
 - b) Platform specialization
 - c) Environment specialization
 - d) Functional specialization
177. What are generic application systems that may be designed to support a particular business type, activity, or sometimes a complete enterprise?
- a) COTS-solution systems**
 - b) COTS-integrated systems
 - c) ERP systems
 - d) Both COTS-solution and COTS-integrated systems
178. . Which of the following is not an advantages of software reuse?
- a) lower costs
 - b) faster software development
 - c) high effectiveness**
 - d) lower risks
179. ERP stands for
- a) Effective Reuse Planning
 - b) Enterprise Resource Planning**
 - c) Effective Research Planning
 - d) None of the mentioned
180. Which framework class include standards and classes that support component communication and information exchange?

- a) System infrastructure frameworks
 - b) Middleware integration frameworks**
 - c) Enterprise application frameworks
 - d) MVC
181. Which of the following is not a benefit of software reuse?
- a) Standards compliance
 - b) Increased Reliability
 - c) Reduced Process risk**
 - d) Maintaining a component library
182. In which of the following language the frameworks will not work?
- a) C#
 - b) Ruby
 - c) PHP**
 - d) Java
183. Which frameworks support the development of system infrastructures such as communications, user interfaces, and compilers?
- a) Middleware integration frameworks
 - b) System infrastructure framework**
 - c) Enterprise application frameworks
 - d) Web application frameworks
- 184.** The MVC pattern was originally proposed in the 1980s as an approach to
- a) Web application frameworks
 - b) Middleware integration frameworks
 - c) Web application frameworks
 - d) GUI design**
185. MVC framework includes
- a) Observer pattern
 - b) Strategy pattern
 - c) Composite pattern
 - d) All of the mentioned**
186. Which category the following statement belongs, "Classes to create and manage sessions are usually part of a WAF"?
- a) Session management**
 - b) Security
 - c) User interaction
 - d) Database support
187. Which framework's applications are difficult to deal with?
- a) MVC pattern
 - b) Web application frameworks
 - c) Debugging framework**
 - d) None of the mentioned

188. Which category the following statement belongs,"Frameworks don't usually include a database but rather assume that a separate database such as MySQL"?

- a) Session management
- b) Security
- c) User interaction
- d) Database support**

189. Which option supports the statement:"Most web frameworks now provide AJAX support"?

- a) Session Management
- b) Security
- c) User interaction**
- d) Database support

190. Frameworks are an effective approach to reuse, but are _____ to introduce into software development processes.

- a) difficult
- b) expensive
- c) unreliable
- d) difficult and expensive**

191. Which of the following option is not provided by formal methods?

- a) providing frameworks
- b) verifying systems
- c) provide investors
- d) both providing frameworks and verifying systems**

192. _____ are statements that can be interpreted in a number of ways.

- a) Contradictions**
- b) Ambiguities
- c) Vagueness
- d) Comments

193. What defines the circumstances in which a particular operation is valid?

- a) Contradictions
- b) Post-condition
- c) Vagueness
- d) None of the mentioned**

194. Which of the following is a way of making a statement about the elements of a set that is true for every member of the set?

- a) Set
- b) Sequence
- c) Universal quantification**
- d) Both Set and Sequence

195. Which of the following occurs often due to the bulkiness of a system specification document?

- a) Contradictions

- b) Ambiguities
 - c) Vagueness**
 - d) Incompleteness
196. The _____ of a formal specification language is often based on a syntax that is derived from standard set theory notation and predicate calculus.
- a) semantic domain
 - b) syntactic domain**
 - c) sequence
 - d) set
197. Which of the following provides a concise, unambiguous, and consistent method for documenting system requirements?
- a) CMM
 - b) ISO-9001
 - c) CASE tools
 - d) Formal methods**
198. The _____ of a specification language indicates how the language represents system requirements.
- a) semantic domain**
 - b) syntactic domain
 - c) sequence
 - d) set
199. Which of the following is essential for success, when formal methods are used for the first time?
- a) Expert training
 - b) Consulting
 - c) Prerequisite knowledge
 - d) Both Expert training and Consulting**
200. It is generally not necessary to apply formal methods to every aspect of a major system.
- a) True
 - b) False**
201. Who was first to proposed the Cleanroom philosophy in software engineering ?
- a) Mills
 - b) Dyer
 - c) Linger
 - d) All of the Mentioned**
202. How does Cleanroom software engineering differs from the conventional and object-oriented views ?
- a) It makes explicit use of statistical quality control
 - b) It verifies design specification using a mathematically based proof of correctness
 - c) It relies heavily on statistical use testing to uncover high-impact errors
 - d) All of the mentioned**

203. Cleanroom software engineering complies with the operational analysis principles by using a method called known as

- a) **box structure specification**
- b) referential transparency
- c) degenerative error correction
- d) none of the mentioned

204. What encapsulates state data and services in a manner that is analogous to objects?

- a) **State box**
- b) Clean box
- c) White box
- d) Black box

205. MTTF stands for

- a) mean-time-to-function
- b) **mean-time-to-failure**
- c) manufacture-time-to-function
- d) none of the mentioned

206. The transition functions that are implied by the state box are defined in

- a) Yellow box
- b) **Clear box**
- c) White box
- d) Black box

207. Which of the following is not included in the certification approach?

- a) Creation of usage scenarios
- b) Specific usage file
- c) **Generation of test cases from the servers end.**
- d) Reliability

208. The _____ specifies the behavior of a system or a part of a system.

- a) Yellow box
- b) Clear box
- c) White box
- d) **Black box**

209. Which of the following is required for Certification for cleanroom software engineering?

- a) Sampling model
- b) Component model
- c) Certification model
- d) **All of the mentioned**

210. The philosophy of Cleanroom SE focuses on defect removal rather than defect avoidance.

- a) True
- b) **False**

211. Which of the following Cleanroom process teams develops set of statistical test to exercise software after development?

- a) Specification team
- b) Development team**

- c) Certification team
- d) All of the mentioned

212. A software element conforms to a standard component model and can be independently deployed and composed without modification according to a composition standard.

- a) True**

- b) False

213. Which of the following is a feature of CBSE?

- a) It increases quality
- b) CBSE shortens delivery time
- c) CBSE increases productivity
- d) All of the mentioned**

214. Which of the following term is best defined by the statement:"For a component to be composable, all external interactions must take place through publicly defined interfaces"?

- a) Standardized
- b) Independent
- c) Composable**
- d) Documented

215. A component model defines standards for

- a) properties
- b) methods
- c) mechanisms
- d) all of the mentioned**

216. Which of the following is not an example of component technology?

- a) EJB
- b) COM+
- c) .NET
- d) None of the mentioned**

217. Which of the following term is best defined by the statement:"The operations on each side of the interface have the same name but their parameter types or the number of parameters are different."?

- a) Parameter incompatibility**
- b) Operation incompleteness
- c) Operation incompatibility
- d) None of the mentioned

218. Which of the following term is best defined by the statement: "The names of the operations in the 'provides' and 'requires' interfaces are different."?

- a) Parameter incompatibility
 - b) Operation incompleteness
 - c) Operation incompatibility**
 - d) None of the mentioned
219. A _____ defines a set of standards for components, including interface standards, usage standards, and deployment standards.
- a) Component-based software engineering
 - b) Component composition
 - c) Component model**
 - d) Component interfaces
220. When composing reusable components that have not been written for your application, you may need to write adaptors or 'glue code' to reconcile the different
-
- a) Component modules
 - b) Component composition
 - c) Component model**
 - d) Component interfaces.
- 221.** _____ is a reuse-based approach to defining, implementing, and composing loosely coupled independent components into systems.
- a) Component-based software engineering
 - b) Component composition
 - c) Component model
 - d) Component interfaces**
222. Which of the following term is best defined by the statement "In a distributed system, several processes may operate at the same time on separate computers on the network."?
- a) Concurrency**
 - b) Openness
 - c) Resource sharing
 - d) Fault tolerance
- 223.** Which of the following is not a dimension of scalability?
- a) Size
 - b) Distribution
 - c) Manageability
 - d) Interception**
- 224.** A distributed system must defend itself against
- a) Modification
 - b) Interruption
 - c) Fabrication
 - d) All of the mentioned**
225. QoS stands for
- a) Quality of security

- b) Quality of system
- c) Quality of service**
- d) None of the mentioned

226. In Java, _____ are comparable with, though not identical to, RPCs.

- a) Remote Method Invocations**
- b) Operating System
- c) Client–server computing
- d) None of the mentioned

227. _____ depend on there being a clear separation between the presentation of information and the computations that create and process that information.

- a) Master-slave architectures
- b) Client–server systems**
- c) Two-tier client–server architecture
- d) Both Master-slave architectures AND Client–server systems

228. Which architecture is used when there is a high volume of transactions to be processed by the server?

- a) Multi-tier client–server architecture**
- b) Master-slave architecture
- c) Distributed component architecture
- d) Peer-to-peer architecture

229. Which architecture are reliant on middle-ware?

- a) Multi-tier client–server architecture
- b) Master-slave architecture
- c) Distributed component architecture**
- d) Peer-to-peer architecture

230. _____ is a way of providing functionality on a remote server with client access through a web browser.

- a) SaaS**
- b) SOA
- c) Configurability
- d) Both SaaS and Configurability

231. Which architecture decentralized architectures in which there are no distinguished clients and servers?

- a) Multi-tier client–server architecture
- b) Master-slave architecture
- c) Distributed component architecture
- d) Peer-to-peer architecture**

232. Service Oriented Architecture (SOA) is

- a) Strongly Coupled
- b) Loosely Coupled**
- c) Strongly Cohesive
- d) Loosely Cohesive

233. Which of the following is an essential principle of an architecture?

- a) Consistency
- b) Reliability
- c) Scalability

d) All of the mentioned

234. Arrange the following activities in order to build a SOA.

- i. Virtualization through mediation.
 - ii. Track services with registries.
 - iii. Govern, secure and manage the services.
 - iv. Design for interoperability through the adoption of standards.
- a) i, ii, iii, iv
 - b) iii, ii, i, iv
 - c) ii, iii, i, iv**
 - d) ii, iii, iv, i

235. How is SOA different from OO Architecture ?

- a) Strong coupling among objects
- b) Communications are prescriptive rather than being descriptive
- c) Data is separated from a service or behavior**
- d) Data and methods are integrated into a single object

236. Which architecture will be built on top of a SOA ?

- a) The Application Architecture**
- b) The Service Architecture
- c) The Component Architecture
- d) None of the mentioned

237. Which of the following utilities is not a part of Application Service Layer ?

- a) Policy implementation
- b) QoS
- c) Security
- d) Verify invoice**

238. Which of the following utilities is not a part of Business Service Layer ?

- a) Task centric service
- b) Wrapper Services**
- c) Get account info
- d) Entity centric service

239. We can build Service Oriented Architecture (SOA) using Object Oriented (OO) language

- a) True**
- b) False

240. Which architecture describes the various elements that support the implementation of services.

- a) The Application Architecture
- b) The Service Architecture

c) The Component Architecture

d) None of the mentioned

241. Web Services is not a realization of SOA ?

a) True

b) False

242. Which of the following is a category of a stimuli?

a) Periodic stimuli

b) Software stimuli

c) Hardware stimuli

d) Management stimuli

243. Which of the following activities may be included in a real-time software design process?

a) Platform selection

b) Timing analysis

c) Process design

d) All of the mentioned

244. Which of the following is not a real-time architectural pattern

a) Observe and React

b) Environmental Control

c) Embedded System

d) Process Pipeline

245. RTOS stands for

a) real-life operating system

b) real-time operating system

c) real-time operating software

d) real-life operating software

246. The times by which stimuli must be processed and some response produced by the system is known as

a) Compile time

b) Frequency

c) Deadlines

d) Execution time

247. The switch to backup power must be completed within a deadline of

a) 50 ms

b) 55 ms

c) 70 ms

d) 100 ms

248. An example of a system that may use a process pipeline is a _____

a) High-speed data acquisition system

b) Failure of a power supply in an embedded system

c) Both High-speed data acquisition system AND Failure of a power supply in an

- embedded system
- d) None of the mentioned
249. Periodic occur irregularly and unpredictably and are usually signaled using the computer's interrupt mechanism.
- a) True
 - b) False**
250. If you detect power failure by monitoring a voltage level, you have to make more than one observation to detect that the voltage is dropping.
- a) True**
 - b) False
251. The average execution time of the power monitor process should be less than
- a) 1ms**
 - b) 10ms
 - c) 100ms
 - d) none of the mentioned
252. Which of the following diagrams can help spot points cuts?
- a) Class diagram
 - b) Object diagram**
 - c) Sequence diagram
 - d) ER diagram
253. Which of the following is represented as an aspect that requests a login name and password?
- a) Class
 - b) Object
 - c) User authentication**
 - d) All of the mentioned
254. Research and development in aspect-orientation has primarily focused on
- a) software re-engineering
 - b) artificial programming
 - c) aspect-oriented programming**
 - d) all of the mentioned
255. Which of the following is a key principle of software design and implementation?
- a) Separation of concerns**
 - b) Writing aspects
 - c) Finding code complexity
 - d) None of the mentioned
256. Which of the following is not a type of stakeholder concern?
- a) Functional concerns**
 - b) Quality of service concerns
 - c) Policy concern
 - d) Non-functional concern

257. Which of the following concerns best suits the following statement:"Internet banking system includes new customer requirements, account Requirements, customer management requirements, security requirements, recovery requirements etc." ?
- a) Functional concerns
 - b) Quality of service concerns
 - c) System concerns
 - d) Cross-cutting concerns**
258. Which of the following is core concern in medical record management system?
- a) maintaining records of patients**
 - b) diagnose and treatments
 - c) consultations
 - d) all of the mentioned
259. An event in an executing program where the advice associated with an aspect may be executed is known as
- a) aspect
 - b) join point**
 - c) join point model
 - d) pointcut
260. The incorporation of advice code at the specified join points by an aspect weaver is called".
- a) aspect
 - b) join point
 - c) join point model
 - d) weaving**
261. Which of the following is needed by Maintenance staff?
- a) A specific type of equipment
 - b) Maintenance record for each and every equipment item
 - c) Check in/check out equipment for maintenance
 - d) All of the mentioned**
- 262.** An aspect is only static.
- a) True
 - b) False**
263. The _____ is connected to servers (typically powerful workstations or PCs) that play a dual role.
- a) Database
 - b) Software
 - c) Hardware
 - d) None of the mentioned**
264. Which of the following term is best defined by the statement:"The client sends structured query language (SQL) requests to the server which are transmitted as messages across the net"?
- a) File servers

b) Database servers

- c) Client servers
- d) None of the mentioned

265. Which subsystem implements the requirements defined by the application?

- a) UI
- b) DBMS

c) Application subsystem

- d) None of the mentioned

266. Which test do you infer from the following statement: "The coordination and data management functions of the server are tested."?

a) Server tests

- b) Application function tests
- c) Transaction tests
- d) Network communication tests

267. Which of the following presentation is explained in the following statement:"An extension of the distributed presentation approach, primary database and application logic remain on the server, and data sent by the server is used by the client to prepare the user presentation."?

- a) Local Presentation
- b) Distributed presentation

c) Remote presentation

- d) All of the mentioned

268. "A client is assigned all user presentation tasks and the processes associated with data entry".Which option supports the client's situation?

a) Distributed logic

- b) Distributed presentation
- c) Remote presentation
- d) All of the mentioned

269. What is used to pass SQL requests and associated data from one component to another?

a) Client/server SQL interaction

- b) Remote procedure calls
- c) SQL Injection
- d) All of the mentioned

270. When a client application invokes a method contained within an object elsewhere in the system, CORBA uses dynamic invocation to

- a) obtain pertinent information about the desired method from the interface repository
- b) create a data structure with parameters to be passed to the object
- c) create a request for the object

d) all of the mentioned

271. Which of the following services is not provided by an object?

- a) Activating & Deactivating Objects

b) Security features

c) Files implementing the entities identified within the ERD

d) Registering object implementation

272. Which of the following term is best defined by the statement:"When one object invokes another independent object, a message is passed between the two objects."?

a) Control couple

b) Application object

c) Data couple

d) Database object

273. CORBA stands for

a) Common Object Request Build Architecture

b) Common Object Request Broker Architecture

c) Common Object Request Break Architecture

d) All of the mentioned

1. Which of the following term describes testing?

a) Finding broken code

b) Evaluating deliverable to find errors

c) A stage of all projects

d) None of the mentioned

[View Answer](#)

Answer: b

2. What is Cyclomatic complexity?

a) Black box testing

b) White box testing

c) Yellow box testing

d) Green box testing

[View Answer](#)

Answer: b.

3. Lower and upper limits are present in which chart?

a) Run chart

b) Bar chart

c) Control chart

d) None of the mentioned

[View Answer](#)

Answer: a

4. Maintenance testing is performed using which methodology?

a) Retesting

b) Sanity testing

c) Breadth test and depth test

d) Confirmation testing

[View Answer](#)

Answer: c

5. White Box techniques are also classified as

- a) Design based testing
- b) Structural testing
- c) Error guessing technique
- d) None of the mentioned

[View Answer](#)

Answer: b

6. Exhaustive testing is

- a) always possible
- b) practically possible
- c) impractical but possible
- d) impractical and impossible

[View Answer](#)

Answer: c

7. Which of the following is/are White box technique?

- a) Statement Testing
- b) Decision Testing
- c) Condition Coverage
- d) All of the mentioned

[View Answer](#)

Answer: d

8. What are the various Testing Levels?

- a) Unit Testing
- b) System Testing
- c) Integration Testing
- d) All of the mentioned

[View Answer](#)

Answer: d.

9. Boundary value analysis belong to?

- a) White Box Testing
- b) Black Box Testing
- c) White Box & Black Box Testing
- d) None of the mentioned

[View Answer](#)

Answer: b

10. Alpha testing is done at
- a) Developer's end
 - b) User's end
 - c) Developer's & User's end
 - d) None of the mentioned

[View Answer](#)

Answer: a

1. The testing in which code is checked
- a) Black box testing
 - b) White box testing
 - c) Red box testing
 - d) Green box testing

[View Answer](#)

Answer: b

2. Testing done without planning and Documentation is called
- a) Unit testing
 - b) Regression testing
 - c) Adhoc testing
 - d) None of the mentioned

[View Answer](#)

Answer: c

3. Acceptance testing is also known as
- a) Grey box testing
 - b) White box testing
 - c) Alpha Testing
 - d) Beta testing

[View Answer](#)

Answer: d

4. Which of the following is non-functional testing?
- a) Black box testing
 - b) Performance testing
 - c) Unit testing
 - d) None of the mentioned

[View Answer](#)

Answer: b.

5. Beta testing is done at
- a) User's end
 - b) Developer's end
 - c) User's & Developer's end

d) None of the mentioned

[View Answer](#)

Answer: a

6. SPICE stands for

- a) Software Process Improvement and Compatibility Determination
- b) Software Process Improvement and Control Determination
- c) Software Process Improvement and Capability Determination
- d) None of the mentioned

[View Answer](#)

Answer: c

7. Unit testing is done by

- a) Users
- b) Developers
- c) Customers
- d) None of the mentioned

[View Answer](#)

Answer: b

8. Behavioral testing is

- a) White box testing
- b) Black box testing
- c) Grey box testing
- d) None of the mentioned

[View Answer](#)

Answer: b

9. Which of the following is black box testing

- a) Basic path testing
- b) Boundary value analysis
- c) Code path analysis
- d) None of the mentioned

[View Answer](#)

Answer: b

10. Which of the following is not used in measuring the size of the software

- a) KLOC
- b) Function Points
- c) Size of module
- d) None of the mentioned

[View Answer](#)

Answer: c

1. Software Debugging is a set of activities that can be planned in advance and conducted systematically.

- a) True
- b) False

[View Answer](#)

Answer: b

2. Which of the following is not a software testing generic characteristics?

- a) Different testing techniques are appropriate at different points in time
- b) Testing is conducted by the developer of the software or an independent test group
- c) Testing and debugging are different activities, but debugging must be accommodated in any testing strategy
- d) None of the mentioned

[View Answer](#)

Answer: a

3. ITG stands for

- a) instantaneous test group
- b) integration testing group
- c) individual testing group
- d) independent test group

[View Answer](#)

Answer: d

4. By collecting _____ during software testing, it is possible to develop meaningful guidelines to halt the testing process.

- a) Failure intensity
- b) Testing time
- c) Metrics
- d) All of the mentioned

[View Answer](#)

Answer: c

5. Which of the following issues must be addressed if a successful software testing strategy is to be implemented?

- a) Use effective formal technical reviews as a filter prior to testing
- b) Develop a testing plan that emphasizes “rapid cycle testing.”
- c) State testing objectives explicitly
- d) All of the mentioned

[View Answer](#)

Answer: d

6. Test cases should uncover errors like
- a) Nonexistent loop termination
 - b) Comparison of different data types
 - c) Incorrect logical operators or precedence
 - d) All of the mentioned

[View Answer](#)

Answer: a

7. Which of the following errors should not be tested when error handling is evaluated?
- a) Error description is unintelligible
 - b) Error noted does not correspond to error encountered
 - c) Error condition causes system intervention prior to error handling
 - d) Error description provide enough information to assist in the location of the cause of the error

[View Answer](#)

Answer: a

8. What is normally considered as an adjunct to the coding step
- a) Integration testing
 - b) Unit testing
 - c) Completion of Testing
 - d) Regression Testing

[View Answer](#)

Answer: b

9. Which of the following is not regression test case?
- a) A representative sample of tests that will exercise all software functions
 - b) Additional tests that focus on software functions that are likely to be affected by the change
 - c) Tests that focus on the software components that have been changed
 - d) Low-level components are combined into clusters that perform a specific software sub-function

[View Answer](#)

Answer: d

10. Which testing is an integration testing approach that is commonly used when “shrink-wrapped” software products are being developed?
- a) Regression Testing
 - b) Integration testing
 - c) Smoke testing
 - d) Validation testing

[View Answer](#)

Answer: c

11. In which testing level the focus is on customer usage?
- a) Alpha Testing
 - b) Beta Testing

- c) Validation Testing
- d) Both Alpha and Beta

[View Answer](#)

Answer: d

12. Validation refers to the set of tasks that ensure that software correctly implements a specific function.

- a) True
- b) False

[View Answer](#)

Answer: b

1. The architecture of object-oriented software results in a series of layered subsystems that encapsulate collaborating classes.

- a) True
- b) False

[View Answer](#)

Answer: a

2. The construction of object-oriented software begins with the creation of

- a) design model
- b) analysis model
- c) code levels
- d) both design and analysis model

[View Answer](#)

Answer: d

3. Which testing integrates the set of classes required to respond to one input or event for the system?

- a) cluster testing
- b) thread-based testing
- c) use-based testing
- d) none of the mentioned

[View Answer](#)

Answer: b

4. Which of the following is one of the steps in the integration testing of OO software?

- a) cluster testing
- b) thread-based testing
- c) use-based testing
- d) none of the mentioned

[View Answer](#)

Answer: a

5. _____ methods can be used to drive validations tests

- a) Yellow-box testing
- b) Black-box testing
- c) White-box testing
- d) All of the mentioned

[View Answer](#)

Answer: b

6. Which of the following is a part of testing OO code?

- a) Validation tests
- b) Integration tests
- c) Class tests
- d) System tests

[View Answer](#)

Answer: c

7. The object of _____ within an OO system is to design tests that have a high likelihood of uncovering plausible bugs.

- a) Fault-based testing
- b) Integration testing
- c) Use-based testing
- d) Scenario-based testing

[View Answer](#)

Answer: a

8. What refers to the externally observable structure of an OO program?

- a) Deep structure
- b) Surface structure
- c) Core structure
- d) All of the mentioned

[View Answer](#)

Answer: b

9. _____ categorizes class operations based on the generic function that each performs.

- a) Category-based partitioning
- b) Attribute-based partitioning
- c) State-based partitioning
- d) None of the mentioned

[View Answer](#)

Answer: a

10. Which of the following is black-box oriented and can be accomplished by applying the same black-box methods discussed for conventional software?

- a) Conventional testing

- b) OO system validation testing
- c) Test case design
- d) Both Conventional testing and OO system validation testing

[View Answer](#)

Answer: d

11. In which of the following testing strategies, a smallest testable unit is the encapsulated class or object?

- a) Unit testing
- b) Integration testing
- c) System testing
- d) None of the mentioned

[View Answer](#)

Answer: a

.

12. Which of the following testing types is not a part of system testing?

- a) Recovery testing
- b) Stress testing
- c) System testing
- d) Random testing

[View Answer](#)

Answer: d

1. What is testing process' first goal?

- a) Bug prevention
- b) Testing
- c) Execution
- d) Analyses

[View Answer](#)

Answer: a

2. Software mistakes during coding are known as

- a) errors
- b) failures
- c) bugs
- d) defects

[View Answer](#)

Answer: c

3. Name an evaluation technique to assess the quality of test cases.

- a) Mutation analysis
- b) Validation
- c) Verification
- d) Performance analysis

[View Answer](#)

Answer: a

4. Test should be conducted for every possible

- a) data
- b) case
- c) variable
- d) all of the mentioned

[View Answer](#)

Answer: d

5. Which of the following is not a part of bug report?

- a) Test case
- b) Output
- c) Software Version
- d) LOC

[View Answer](#)

Answer: d

6. Which of the following is not a part of Execution Flow during debugging?

- a) Step Over
- b) Step Into
- c) Step Up
- d) Step Out

[View Answer](#)

Answer: c

7. Cyclomatic Complexity method comes under which testing method.

- a) Yellow box
- b) White box
- c) Gray box
- d) Black box

[View Answer](#)

Answer: b

8. Which is a black box testing technique appropriate to all levels of testing?

- a) Acceptance testing
- b) Regression testing
- c) Equivalence partitioning
- d) Quality assurance

[View Answer](#)

Answer: c

9. Which of the following is the way of ensuring that the tests are actually testing code?

- a) Control structure testing
- b) Complex path testing
- c) Code coverage
- d) Quality assurance of software

[View Answer](#)

Answer: c

10. Effective testing will reduce _____ cost.

- a) maintenance
- b) design
- c) coding
- d) documentation

[View Answer](#)

Answer: a.

11. Which of the following is a common pointer problem?

- a) Data sharing errors
- b) Accessing data elements of the wrong type
- c) Attempting to use memory areas after freeing them
- d) All of the mentioned

[View Answer](#)

Answer: d

1. Standard Enforcer is a

- a) Static Testing Tool
- b) Dynamic Testing
- c) Static & Dynamic Testing
- d) None of the mentioned

[View Answer](#)

Answer: a

2. Many applications using static analysis find 0.1-0.2% NCSS. NCSS stands for

- a) Non-Code Source Statement
- b) Non Comment Source Sentence
- c) Non-Comment Source Statement
- d) All of the mentioned

[View Answer](#)

Answer: c

3. Which testing tool does a simple job of enforcing standards in a uniform way of many programs?

- a) Static Analyzer
- b) Code Inspector
- c) Standard Enforcer

d) Both Code Inspector & Standard Enforcer

[View Answer](#)

Answer: d

4. Software Testing with real data in real environment is known as

- a) alpha testing
- b) beta testing
- c) regression testing
- d) none of the mentioned

[View Answer](#)

Answer: b

5. Which of the following testing tools examine program systematically & automatically ?

- a) Code Inspector
- b) Static Analyzer
- c) Standard Enforcer
- d) Coverage Analyzer

[View Answer](#)

Answer: b

6. Which testing tool is responsible for documenting programs ?

- a) Test/File Generator
- b) Test Harness System
- c) Test Archiving Systems
- d) Coverage Analyzer

[View Answer](#)

Answer: c

7. Beta Testing is done by

- a) Developers
- b) Testers
- c) Users
- d) All of the mentioned

[View Answer](#)

Answer: c

8. Standard enforcer tool looks at the whole program.

- a) True
- b) False

[View Answer](#)

Answer: b

9. Debugging Program is a program which runs concurrently with the program under test & provide commands to
- a) examine memory & registers
 - b) stop execution at a particular point
 - c) search for references for particular variables, constant and registers
 - d) all of the mentioned

[View Answer](#)

Answer: d

10. Execution Verifier is a dynamic tool that is also known as
- a) Test File Generator
 - b) Coverage Analyzer
 - c) Output Comparator
 - d) Test Harness System

[View Answer](#)

Answer: b

1. Why is software difficult to build ?
- a) Controlled changes
 - b) Lack of reusability
 - c) Lack of monitoring
 - d) All of the mentioned

[View Answer](#)

Answer: c

2. Which of the following is not a conflict in software development team?
- a) Simultaneous updates
 - b) Shared and common code
 - c) Versions
 - d) Graphics issues

[View Answer](#)

3. Which of the following lasts for the duration of the project and covers the development process?
- a) Monitoring all key parameters like cost, schedule, risks
 - b) Taking corrective actions when needed
 - c) Providing information on the development process in terms of metrics
 - d) All of the mentioned

[View Answer](#)

Answer: a

4. Which of the following is not a typical environment in communication facilitation ?
- a) Multiple teams
 - b) Multiple user groups
 - c) Multiple fests

d) Multiple locations

[View Answer](#)

Answer: c

5. Which of the following is a software process ?

- a) Analysis and design
- b) Configuration and management
- c) Business modeling
- d) All of the mentioned

[View Answer](#)

Answer: d

6. Which of the following is not included in Issues Meetings?

- a) Issues gathered the day before
- b) Regular schedule of meeting
- c) Discussion with business
- d) Attendance

[View Answer](#)

Answer: c.

7. Which of the following is not a part of Software Configuration Management Basics?

- a) Identification
- b) Version
- c) Auditing and Reviewing
- d) Status Accounting

[View Answer](#)

Answer: b

8. What is a collection of software elements treated as a unit for the purposes of SCM?

- a) Software Configuration Item
- b) Baseline
- c) Configuration
- d) Configuration Control Board

[View Answer](#)

Answer: a

9. What is one or more software configuration items that have been formally reviewed and agreed upon and serve as a basis for further development?

- a) Configuration
- b) Baseline
- c) Software
- d) All of the mentioned

[View Answer](#)

Answer: b

10. What is validating the completeness of a product?

- a) Identification
- b) Software
- c) Auditing and Reviewing
- d) Status Accounting

[View Answer](#)

Answer: c

11. What group has the responsibility for reviewing and approving changes to baselines?

- a) Software Configuration Item
- b) Baseline
- c) Configuration
- d) Configuration Control Board

[View Answer](#)

Answer: d

12. In many settings PM is a center of communication hub

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: None.

13. What is a specific instance of a baseline or configuration item?

- a) Software
- b) Configuration
- c) Version
- d) Status Accounting

[View Answer](#)

Answer: c

1. SCM stands for

- a) Software Control Management
- b) Software Configuration Management
- c) Software Concept Management
- d) None of the mentioned

[View Answer](#)

Answer: b

2. When code is made available to others, it goes in a/an

- a) hard drive

- b) access-controlled library
- c) servers
- d) access control

[View Answer](#)

Answer: b

Explanation: None.

3. Which of the following is not a main phase in Configuration Management (CM) Process?

- a) CM Planning
- b) Executing the CM process
- c) CM audits
- d) None of the mentioned

[View Answer](#)

Answer: d

4. CM is about managing the different items in the product, and changes in them.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: None.

5. What allows different projects to use the same source files at the same time?

- a) Version Control
- b) Access control
- c) CM Process
- d) Version Control and Access control

[View Answer](#)

Answer: a

6. Which of the following is not a change management process?

- a) Log the changes
- b) Estimate impact on effort and schedule
- c) Review impact with stakeholders
- d) None of the mentioned

[View Answer](#)

Answer: d

7. Configuration management (CM) is needed to deliver product to the client

- a) True
- b) False

[View Answer](#)

Answer: a

8. What is one or more software configuration items that have been formally reviewed and agreed upon and serve as a basis for further development?

- a) Baseline
- b) Cumulative changes
- c) CM
- d) Change Control

[View Answer](#)

Answer: a

9. How are baselines verified?

- a) By reviews
- b) By inspections
- c) By testing of code
- d) All of the mentioned

[View Answer](#)

Answer: c

10. Which of the following is a example of Configuration Items ?

- a) SCM procedures
- b) Source code
- c) Software design descriptions
- d) All of the mentioned

[View Answer](#)

Answer: d

11. SCM controls only the products of the development process.

- a) True
- b) False

[View Answer](#)

Answer: a

12. CCB stands for

- a) Change Control Board
- b) Change Control Baseline
- c) Cumulative Changes in Baseline
- d) None of the mentioned

[View Answer](#)

Answer: a

13. What information is required to process a change to a baseline?

- a) Reasons for making the changes
- b) A description of the proposed changes
- c) List of other items affected by the changes

d) All of the mentioned

[View Answer](#)

Answer: d

1. Quality Management in software engineering is also known as

- a) SQA
- b) SQM
- c) SQI
- d) SQA and SQM

[View Answer](#)

Answer: a

2. Quality also can be looked at in terms of user satisfaction which includes

- a) A compliant product
- b) Good quality output
- c) Delivery within budget and schedule
- d) All of the mentioned

[View Answer](#)

Answer: d

3. Inspections and testing are what kinds of Quality Costs?

- a) Prevention
- b) Internal Failure
- c) External Failure
- d) Appraisal

[View Answer](#)

Answer: d

4. According to Pareto's principle, x% of defects can be traced to y% of all causes. What are the values of x and y?

- a) 60, 40
- b) 70, 30
- c) 80, 20
- d) No such principle exists

[View Answer](#)

Answer: c

5. What is Six Sigma?

- a) It is the most widely used strategy for statistical quality assurance
- b) The "Six Sigma" refers to six standard deviations
- c) It is the most widely used strategy for statistical quality assurance AND The "Six Sigma" refers to six standard deviations
- d) A Formal Technical Review(FTR) guideline for quality walkthrough or inspection

[View Answer](#)

Answer: c

6. Which of the following is not a core step of Six Sigma?

- a) Define
- b) Control
- c) Measure
- d) Analyse

[View Answer](#)

Answer: b.

7. Non-conformance to software requirements is known as

- a) Software availability
- b) Software reliability
- c) Software failure
- d) None of the mentioned

[View Answer](#)

Answer: c

8. Software safety is equivalent to software reliability.

- a) True
- b) False

[View Answer](#)

Answer: b

9. Misinterpretation of customer communication is a sample of possible cause defects.

- a) True
- b) False

[View Answer](#)

Answer: a

10. What kind of quality cost is incurred when an error is detected in a product prior to shipment?

- a) Prevention
- b) Internal Failure
- c) External Failure
- d) Appraisal

[View Answer](#)

Answer: b

11. The degree to which the design specifications are followed during manufacturing is known as

- a) Quality of design
- b) Quality of conformance
- c) Quality of testing

d) None of the mentioned

[View Answer](#)

Answer: b

12. Quality of design encompasses requirements and specifications of the system.

a) True

b) False

[View Answer](#)

Answer: a

13. According to ISO 9001, inspection and testing comes under which management responsibility?

a) Process control

b) Document control

c) Control of nonconforming products

d) Servicing

[View Answer](#)

Answer: a

1. Which of the following is the task of project indicators:

a) help in assessment of status of ongoing project

b) track potential risk

c) help in assessment of status of ongoing project & track potential risk

d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

2. Which of the following does not affect the software quality and organizational performance?

a) Market

b) Product

c) Technology

d) People

[View Answer](#)

Answer: a

3. The intent of project metrics is:

a) minimization of development schedule

b) for strategic purposes

c) assessing project quality on ongoing basis

d) minimization of development schedule and assessing project quality on ongoing basis

[View Answer](#)

Answer: d

Explanation: A project metric is a quantitative measure of the degree to which a system, component or process possesses an attribute.

4. Which of the following is not a direct measure of SE process?

- a) Efficiency
- b) Cost
- c) Effort Applied
- d) All of the mentioned

[View Answer](#)

Answer: a

5. Which of the following is an indirect measure of product?

- a) Quality
- b) Complexity
- c) Reliability
- d) All of the Mentioned

[View Answer](#)

Answer: d

6. In size oriented metrics, metrics are developed based on the _____

- a) number of Functions
- b) number of user inputs
- c) number of lines of code
- d) amount of memory usage

[View Answer](#)

Answer: c

Explanation: None.

7. Which of the following is not an information domain required for determining function point in FPA ?

- a) Number of user Input
- b) Number of user Inquiries
- c) Number of external Interfaces
- d) Number of errors

[View Answer](#)

Answer: d

8. Usability can be measured in terms of:

- a) Intellectual skill to learn the system
- b) Time required to become moderately efficient in system usage
- c) Net increase in productivity
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

9. A graphical technique for finding if changes and variation in metrics data are meaningful is known as
- a) DRE (Defect Removal Efficiency)
 - b) Function points analysis
 - c) Control Chart
 - d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Others options are formulas.

10. Defects removal efficiency (DRE) depends on:

- a) E – errors found before software delivery
- b) D – defects found after delivery to user
- c) Both E and D
- d) Varies with project

[View Answer](#)

Answer: c

Explanation: $DRE = E / (E + d)$.

1. The user has no control over the contents of a static web page.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Static web pages are just for information purposes.

2. Which metric gives the idea about the contents on a web page ?

- a) Word Token
- b) Word Count
- c) Word Size
- d) Word Length

[View Answer](#)

Answer: b

Explanation: The word count metric gives the total number of words on a web page.

3. How is the complexity of a web page related to link count ?

- a) Directly
- b) Indirectly
- c) No relation
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: If link count is more, complexity will be more.

4. It is expected to have less number of connections for a good web application.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: More the link count, more the complexity and the web page dependence factor will increase.

5. Number of dynamic web pages provides an idea about _____ for a web page that is to be built.

- a) size
- b) complexity
- c) effort
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

6. Which of the following web engineering metric measures the extent of relatedness between two or more web pages ?

- a) Number of Static Content Objects
- b) Number of Dynamic Content Objects
- c) Web Page Similarity
- d) Number of Internal Page Links

[View Answer](#)

Answer: c

Explanation: None.

7. Which of the following is not a classification of the web engineering metric, Web Page Similarity ?

- a) Content based
- b) Link based
- c) Usage based
- d) Traffic based

[View Answer](#)

Answer: d

Explanation: Similarity between two web pages is not judged upon its traffic activity.

8. The static content objects are dependent on the actions of the user.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Dynamic Objects are user dependent

9. Link based measures rely on _____ structure of a web graph to obtain related pages.

- a) Embedded
- b) Hyperlink
- c) Dynamic
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Only option b answers the blank, rest are not in accordance to the question.

10. Which of the following is not a web engineering project metric ?

- a) Number of Static Content Objects
- b) Number of Dynamic Content Objects
- c) Number of Inherited Objects
- d) Word Count

[View Answer](#)

Answer: c

Explanation: There is no such metric as an inherited object's count.

1. Which of the following is not a metric for design model?

- a) Interface design metrics
- b) Component-level metrics
- c) Architectural metrics
- d) Complexity metrics

[View Answer](#)

Answer: d

Explanation: Complexity metrics measure the logical complexity of source code.

2. Statement and branch coverage metrics are part of

- a) Analysis Model
- b) Testing
- c) Design Model
- d) Source Code

[View Answer](#)

Answer: b

Explanation: These metrics lead to the design of test cases that provide program coverage.

3. Function Points in software engineering was first proposed by

- a) Booch
- b) Boehm
- c) Albrecht
- d) Jacobson

[View Answer](#)

Answer: c

Explanation: First proposed by Albrecht in 1979, hundreds of books and papers have been written on functions points since then.

4. How many Information Domain Values are used for Function Point Computation?

- a) three
- b) four
- c) five
- d) six

[View Answer](#)

Answer: c

Explanation: The five values are: External Inputs, External Outputs, External Inquiries, Internal Logical Files and External Interface Files.

5. Function Point Computation is given by the formula

- a) $FP = [\text{count total} * 0.65] + 0.01 * \sum(F_i)$

- b) $FP = \text{count total} * [0.65 + 0.01 * \sum(F_i)]$.
- c) $FP = \text{count total} * [0.65 + 0.01] * \sum(F_i)$
- d) $FP = [\text{count total} * 0.65 + 0.01] * \sum(F_i)$

[View Answer](#)

Answer: b

Explanation: Option b is the correct formula for Function Point Computation.

6. Architectural Design Metrics are _____ in nature.

- a) Black Box
- b) White Box
- c) Gray Box
- d) Green Box

[View Answer](#)

Answer: a

Explanation: They are “black box” in that they do not require any knowledge of the inner workings of a particular software component.

7. Structural complexity of a module i is given as $S(i) = f^*f(i)$. What does f symbolizes here?

- a) “fan check-out” of module i
- b) “fan check-in” of module i
- c) “fan in” of module i
- d) “fan out” of module i

[View Answer](#)

Answer: d

Explanation: Fan out is number of modules directly invoked by module i .

8. SMI stands for

- a) Software Mature Indicator
- b) Software Maturity Index
- c) Software Mature Index
- d) Software Maturity Indicator

[View Answer](#)

Answer: b

Explanation: None.

9. As the SMI approaches 1.0, the software product starts becoming unstable

- a) True

- b) False

[View Answer](#)

Answer: b

Explanation: As the SMI approaches 1.0, the software product begins to stabilize.

10. $SMI = [Mt - (Fa + Fc + Fd)]/Mt$. Here Mt is the number of modules

- a) in the current release
- b) in the current release that have been changed
- c) from the preceding release that were deleted in the current release
- d) none of the mentioned

[View Answer](#)

Answer: a

Explanation: None.

11. The amount of time that the software is available for use is known as

- a) Reliability
- b) Usability
- c) Efficiency
- d) Functionality

[View Answer](#)

Answer: a

Explanation: None.

12. Usability in metric analysis is defined as the degree to which the software

- a) stated needs
- b) is easy to use
- c) makes optimal use of system resources
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: None

1. Size and Complexity are a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Product Metrics describe the characteristics of product.

2. Cost and schedule are a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: Project Metrics describe the project characteristics and execution.

3. Number of errors found per person hours expended is an example of a

- a) measurement
- b) measure
- c) metric
- d) all of the mentioned

[View Answer](#)

Answer: c

Explanation: Metric is a quantitative measure of the degree to which a system, component, or process possesses a given attribute.

4. Which of the following is not categorized under Product Operation of McCall's Software Quality Factors?

- a) Flexibility
- b) Reliability
- c) Usability
- d) Integrity

[View Answer](#)

Answer: a

Explanation: Flexibility is a part of Product revision as per McCall's Software Quality Factors.

5. The arc-to-node ratio is given as $r = a/n$. What does 'a' represent in the ratio?

- a) maximum number of nodes at any level
- b) longest path from the root to a leaf
- c) number of modules
- d) lines of control

[View Answer](#)

Answer: d

Explanation: 'a' represents the arcs or the lines of control.

6. Which of the following is not categorized under Component-Level Design Metrics?

- a) Complexity Metrics
- b) Cohesion Metrics
- c) Morphology Metrics
- d) Coupling Metrics

[View Answer](#)

Answer: c

Explanation: Morphology metrics are a part of High level design metrics.

7. Percentage of modules that were inspected is a part of

- a) Product Metrics
- b) Process Metrics
- c) Project Metrics
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

8. Metric is the act of obtaining a measure.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Measurement is the act of obtaining a measure.

9. MTTC falls the the category of

- a) correctness
- b) integrity
- c) maintainability

d) all of the mentioned

[View Answer](#)

Answer: c

Explanation: Mean time to change (MTTC) is the time it takes to analyze the change request, design an appropriate modification, implement the change, test it, and distribute the change to all users.

10. Identify the correct option with reference to Software Quality Metrics.

- a) Integrity = $[\Sigma(1 - threat)] * (1 - security)$
- b) Integrity = $[1 - \Sigma(threat)] * (1 - security)$
- c) Integrity = $[1 - threat * \Sigma(1 - security)]$.
- d) Integrity = $\Sigma[1 - threat * (1 - security)]$.

[View Answer](#)

Answer: d

Explanation: None.

1. Architectural design is a creative process satisfying only functional-requirements of a system.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: In architectural design you design a system organization satisfying the functional and non-functional requirements of a system.

2. A _____ view shows the system hardware and how software components are distributed across the processors in the system.

- a) physical
- b) logical
- c) process
- d) all of the mentioned

[View Answer](#)

Answer: a

Explanation: A physical view is implemented by system engineers implementing the system hardware.

3. The UML was designed for describing _____

- a) object-oriented systems
- b) architectural design
- c) SRS
- d) Both object-oriented systems and Architectural design

[View Answer](#)

Answer: d

Explanation: The UML was designed for describing object-oriented systems and, at the architectural design stage, you often want to describe systems at a higher level of abstraction.

4. Which of the following view shows that the system is composed of interacting processes at run time?

- a) physical
- b) development
- c) logical
- d) process

[View Answer](#)

Answer: d

Explanation: This view is useful for making judgments about non-functional system characteristics such as performance and availability.

5. Which of the following is an architectural conflict?

- a) Using large-grain components improves performance but reduces maintainability
- b) Introducing redundant data improves availability but makes security more difficult
- c) Localizing safety-related features usually means more communication so degraded performance
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: High availability architecture can be affected by several design factors that are required to be maintained to ensure that no single points of failure exist in such design.

6. Which of the following is not included in Architectural design decisions?

- a) type of application
- b) distribution of the system
- c) architectural styles
- d) testing the system

[View Answer](#)

Answer: d

Explanation: Architectural design decisions include decisions on the type of application, the distribution of the system, the architectural styles to be used, and the ways in which the architecture should be documented and evaluated.

7. Architecture once established can be applied to other products as well.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Systems in the same domain often have similar architectures that reflect domain concepts.

8. Which of the following pattern is the basis of interaction management in many web-based systems?

- a) architecture
- b) repository pattern
- c) model-view-controller
- d) different operating system

[View Answer](#)

Answer: c

Explanation: Model-View-Controller pattern is the basis of interaction management in many web-based systems.

9. What describes how a set of interacting components can share data?

- a) model-view-controller
- b) architecture pattern
- c) repository pattern
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: The majority of systems that use large amounts of data are organized around a shared database or repository.

10. Which view in architectural design shows the key abstractions in the system as objects or object classes?

- a) physical
- b) development
- c) logical
- d) process

[View Answer](#)

Answer: c

Explanation: It is possible to relate the system requirements to entities in a logical view.

11. Which of the following is a type of Architectural Model?

- a) Static structural model
- b) Dynamic process model
- c) Distribution model
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All these models reflects the basic strategy that is used to structure a system.

1. Which of these following sensor is a useful as part of a burglar alarm system for commercial buildings?

- a) Movement detector
- b) Door sensor
- c) Window sensor
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: A burglar alarm system for commercial buildings include movement detectors in individual rooms, door sensors that detect corridor doors opening, and window sensors on ground-floor windows that can detect when a window has been opened.

2. Which of the following is not real-time architectural patterns that are commonly used?

- a) Asynchronous communication
- b) Observe and React
- c) Environmental Control
- d) Process Pipeline

[View Answer](#)

Answer: a

Explanation: These patterns can be combined and you will often see more than one of them in a single system.

3. A monitoring system examines its environment through

- a) operating system
- b) communication
- c) set of sensors
- d) none of the mentioned

[View Answer](#)

Answer: c

Explanation: If some exceptional event or sensor state is detected by the system, the monitoring system takes some action. Often, this involves raising an alarm to draw an operator's attention to the event.

4. Which of the following is applicable on software radio?

- a) Environmental Control
- b) Process Pipeline
- c) Distributed system
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: A software radio accepts incoming packets of digital data representing the radio transmission and transforms these into a sound signal that people can listen to.

5. An example of a system that may use a process pipeline is a high-speed

- a) data distributing system
- b) data acquisition system
- c) data collector system
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: Data acquisition systems collect data from sensors for subsequent processing and analysis.

6. Monitoring systems are an important class of embedded real-time systems.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: A monitoring system examines its environment through a set of sensors and, usually, displays the state of the environment in some way.

7. Which of the following is an example of a controller for a car braking system?

- a) Observe and React
- b) Process Pipeline
- c) Environmental Control
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: An anti-skid braking system in a car monitors the car's wheels and brake system .

8. ETL stands for

- a) Data Extraction Transformation & Loading
- b) Data Execution Transformation & Loading
- c) Extraction Transformation & Loading
- d) Execution Transformation & Loading

[View Answer](#)

Answer: a

Explanation: None.

9. Control systems may make use of the Environmental Control pattern, which is a general control pattern that includes _____ processes.

- a) sensor
- b) actuator
- c) pipeline
- d) both sensor and actuator

[View Answer](#)

Answer: d

Explanation: Such patterns are quite common in Environmental Control Systems.

10. _____ can be associated with a separate processor or core, so that the processing steps can be carried out in parallel.

- a) Process Pipeline
- b) Environmental Control
- c) Observe and React
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: The Process Pipeline pattern makes this rapid processing possible by breaking down the required data processing into a sequence of separate transformations, with each transformation carried out by an independent process

1. Which of the following examples is/are models of application architectures?

- a) a means of assessing components for reuse
- b) a design checklist
- c) a vocabulary for talking about types of applications
- d) all of the mentioned

[View Answer](#)

Answer: d

Explanation: Application architectures encapsulate the principal characteristics of a class of systems.

2. ERP stands for

- a) Enterprise Research Planning
- b) Enterprise Resource Planning
- c) Enterprise Resource Package
- d) Enterprise Research Package

[View Answer](#)

Answer: b

Explanation: None.

3. Which of the following type describes application architectures?

- a) Transaction processing applications
- b) Language processing systems
- c) Client management systems
- d) Transaction processing applications and Language processing systems

[View Answer](#)

Answer: d

Explanation: Transaction processing applications are database-centered applications that process user

requests for information and update the information in a database, while language processing systems are systems in which the user's intentions are expressed in a formal language.

4. All the operations in a transaction need to be completed before the database changes are made

- a) functional
- b) available to the users
- c) permanent
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: This ensures that failure of operations within the transaction does not lead to inconsistencies in the database.

5. Systems that involve interaction with a shared database can be considered as.

- a) software-based
- b) transaction-based
- c) server-based
- d) client-based

[View Answer](#)

Answer: b

Explanation: Such systems with a shared database are also referred to as transaction based information systems.

6. What translates a natural or an artificial language into another representation of that language and, for programming languages also execute the resulting code?

- a) ERP systems
- b) Transaction-based information systems
- c) Language processing systems
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: In software engineering, compilers translate an artificial programming language into machine code.

7. Properties of a system such as performance and security are independent of the architecture used.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Properties such as performance, security, and availability are influenced by the architecture used.

8. Which of the following is/are commonly used architectural pattern(s)?

- a) Model-View-Controller
- b) Layered Architecture
- c) Client-server
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Commonly used architectural patterns include Model-View-Controller, Layered Architecture, Repository, Client–server, and Pipe and Filter.

9. A language-processing systems may translate an XML data description into

- a) a machine code
- b) an alternative XML representation
- c) machine code and alternative XML representation
- d) a software module

[View Answer](#)

Answer: c

Explanation: Such is the property and function of language processing system.

10. Transaction processing systems may be organized as a _____ architecture with system components responsible for input, processing, and output.

- a) Repository
- b) Client–server
- c) Model-View-Controller
- d) Pipe and Filter

[View Answer](#)

Answer: d

Explanation: None.

1. Which web app attribute is defined by the statement:"A large number of users may access the WebApp at one time"?

- a) Unpredictable load
- b) Performance
- c) Concurrency
- d) Network intensiveness

[View Answer](#)

Answer: c

Explanation: None.

2. Which web app attribute is defined by the statement:"The quality and aesthetic nature of content remains an important determinant of the quality of a WebApp"?

- a) Availability
- b) Data driven
- c) Content sensitive
- d) Continuous evolution

[View Answer](#)

Answer: c

Explanation: None.

3. If the user queries a collection of large databases and extracts information from the webapp, the webapp is categorized under

- a) Service oriented app
- b) Database access app
- c) Portal app
- d) Data warehousing app

[View Answer](#)

Answer: d

Explanation: The Data Warehouse is a stable, read-only database that combines information from separate systems into one, easy-to-access location.

4. Which process model should be used in virtually all situations of web engineering?

- a) Incremental Model
- b) Waterfall Model
- c) Spiral Model
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: The web engineering process must accommodate incremental delivery, frequent changes and short timeline.

5. Which analysis is a part of Analysis model of the web engineering process framework?

- a) Content Analysis
- b) Interaction Analysis
- c) Functional Analysis
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: Analysis model establishes a basis for design which requires all the mentioned options.

6. Web development and software development are one and the same thing.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: They are different due to the nature and distinct requirements of Web-based systems.

7. Web-based systems are often document-oriented containing static or dynamic content.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: In web-based systems, more emphasis is on "look and feel" of the product.

8. Web-based systems apply the same levels of formal planning and testing used in software development.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Web-based systems are typically constrained to a short development time making it difficult to apply the same levels of formal planning and testing used in software development.

9. Which of the following statements are incorrect with reference to web-based systems? Web-based systems

- a) should be unscalable
- b) must be able to cope with uncertain, random heavy demands on services
- c) must be secure
- d) are subject to assorted legal, social, and ethical scrutiny

[View Answer](#)

Answer: a

Explanation: Web-based systems should be scalable.

10. What category of web-based system would you assign to electronic shopping?

- a) Informational
- b) Interactive
- c) Transaction-oriented
- d) Workflow-oriented

[View Answer](#)

Answer: c

Explanation: It involves usage of transaction management of database systems.

11. What category of web-based system would you assign to discussion groups?

- a) Collaborative work
- b) Online communities
- c) Web portals
- d) Workflow-oriented

[View Answer](#)

Answer: b

Explanation: None.

12. W3C stands for

- a) World Wide Web Consortium
- b) World Wide Web Collaboration
- c) World Wide Web Community
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: W3C is an international consortium where member organizations, a full-time staff, and the public work together to develop web standards.

13. Which of the following is a risk associated with using hypertext in web applications?

- a) Loss of sense of locality and direction
- b) Cognitive overload for users
- c) All of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Hypertexts and links may divert the users attention from the main content.

1. What are the problems with re-structuring?

- a) Loss of comments
- b) Loss of documentation
- c) Heavy computational demands

d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: Restructuring doesn't help with poor modularisation where related components are dispersed throughout the code.

2. Which of the following is not a module type?

- a) Object modules
- b) Hardware modules
- c) Functional modules
- d) Process support modules

[View Answer](#)

Answer: a

Explanation: Except option a all other are module types.

3. Reverse engineering of data focuses on

- a) Internal data structures
- b) Database structures
- c) ALL of the mentioned
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: None.

4. Forward engineering is not necessary if an existing software product is producing the correct output.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Forward engineering refers to taking a high-level model and using it to build a more complex lower-level implementation.

5. Which of the following is not an example of a business process?

- a) designing a new product
- b) hiring an employee
- c) purchasing services
- d) testing software

[View Answer](#)

Answer: d

Explanation: It is a part of development phase.

6. Which of the following is a data problem?

- a) hardware problem
- b) record organisation problems
- c) heavy computational demands
- d) loss of comments

[View Answer](#)

Answer: b

Explanation: Records representing the same entity may be organised differently in different programs.

7. When does one decides to re-engineer a product?

- a) when tools to support restructuring are disabled
- b) when system crashes frequently
- c) when hardware or software support becomes obsolete
- d) subsystems of a larger system require few maintenance

[View Answer](#)

Answer: c

Explanation: Re-engineering involves putting in the effort to make the system easier to maintain.

8. Which of the following is not a business goal of re-engineering ?

- a) Cost reduction
- b) Time reduction
- c) Maintainability
- d) None of the mentioned

[View Answer](#)

Answer: d

Explanation: No such goal is mentioned which is not a business goal, so option d is correct here.

9. Which of these benefits can be achieved when software is restructured?

- a) Higher quality programs
- b) Reduced maintenance effort
- c) Software easier to test
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: The answer is self explanatory.

10. Data re-engineering may be part of the process of migrating from a file-based system to a DBMS-based system or changing from one DBMS to another.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: Data re-engineering involves analyzing and reorganizing the data structures in a program.

11. BPR stands for

- a) Business process re-engineering
- b) Business product re-engineering
- c) Business process requirements
- d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: The answer is self explanatory.

12. Source code translation is a part of which re-engineering technique?

- a) Data re-engineering
- b) Refactoring
- c) Restructuring
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Restructuring involves automatic conversion from unstructured to structured code.

1. In reverse engineering process, what refers to the sophistication of the design information that can be extracted from the source code?

- a) interactivity
- b) completeness
- c) abstraction level
- d) direction level

[View Answer](#)

Answer: c

Explanation: None.

2. In reverse engineering, what refers to the level of detail that is provided at an abstraction level?

- a) interactivity
- b) completeness
- c) abstraction level
- d) directionality

[View Answer](#)

Answer: b

Explanation: None.

3. The core of reverse engineering is an activity called

- a) restructure code
- b) directionality
- c) extract abstractions
- d) interactivity

[View Answer](#)

Answer: c

Explanation: The engineer must evaluate the old program and extract a meaningful specification of the processing that is performed, the user interface that is applied, and the program data structures or database that is used.

4. What have become de rigueur for computer-based products and systems of every type?

- a) GUIs
- b) Candidate keys
- c) Object model
- d) All of the mentioned

[View Answer](#)

Answer: a

Explanation: Therefore, the redevelopment of user interfaces has become one of the most common types of re-engineering activity. But before a user interface can be rebuilt, reverse engineering should occur.

5. Forward engineering is also known as
- a) extract abstractions
 - b) renovation
 - c) reclamation
 - d) both renovation and reclamation

[View Answer](#)

Answer: d

Explanation: Forward engineering, also called renovation or reclamation , not only recovers design information from existing software, but uses this information to alter or reconstitute the existing system in an effort to improve its overall quality.

6. Reverse engineering is the process of deriving the system design and specification from its
- a) GUI
 - b) Database
 - c) Source code
 - d) All of the mentioned

[View Answer](#)

Answer: c

Explanation: None

7. Reverse engineering techniques for internal program data focus on the definition of classes of objects.
- a) True
 - b) False

[View Answer](#)

Answer: a

Explanation: This is accomplished by examining the program code with the intent of grouping related program variables.

8. Which of the following steps may not be used to define the existing data model as a precursor to re-engineering a new database model:
- a) Build an initial object model
 - b) Determine candidate keys
 - c) Refine the tentative classes
 - d) Discover user interfaces

[View Answer](#)

Answer: d

Explanation: Once information defined in the preceding steps is known, a series of transformations can be applied to map the old database structure into a new database structure.

9. Much of the information necessary to create a behavioral model can be obtained by observing the external manifestation of the existing
- a) candidate keys
 - b) interface
 - c) database structure
 - d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: The GUI or the interface provides the base for the behavioral model.

10. Extracting data items and objects, to get information on data flow, and to understand the existing data structures that have been implemented is sometimes called

- a) data analysis
- b) directionality
- c) data extraction
- d) client applications

[View Answer](#)

Answer: a

Explanation: None.

11. Reverse engineering and Re-engineering are equivalent processes of software engineering.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Re engineering is a process of analysis and change whereby a system is modified by first reverse engineering and then forward engineering.

12. Transformation of a system from one representational form to another is known as

- a) Re-factoring
- b) Restructuring
- c) Forward engineering
- d) Both Re-factoring and Restructuring

[View Answer](#)

Answer: d

Explanation: None.

13. Which of the following is not an objective of reverse engineering?

- a) to reduce maintenance effort
- b) to cope with complexity
- c) to avoid side effects
- d) to assist migration to a CASE environment

[View Answer](#)

Answer: d

Explanation: Reverse engineering helps us to detect side effects rather than avoiding them

1. Which of the following is software engineer's primary characteristics?

- a) A collection of useful tools that will help in every step of building a product
- b) An organized layout that enables tools to be found quickly and used efficiently
- c) A skilled artisan who understands how to use the tools in an effective manner
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: None.

2. Database management software serves as a foundation for the establishment of a CASE database (repository) that we call

- a) project database
- b) system database

- c) analysis and design tools
 - d) prototyping tools
- [View Answer](#)

Answer: a

Explanation: Given the emphasis on configuration objects, database management tools for CASE are evolving from relational database management systems to object oriented database management systems.

3. What enables a software engineer to define screen layout rapidly for interactive applications?

- a) Analysis and design tools
- b) Tool kit
- c) Screen painters
- d) PRO/SIM tools

[View Answer](#)

Answer: c

Explanation: More sophisticated CASE prototyping tools enable the creation of a data design, coupled with both screen and report layouts.

4. _____ tools assist in the planning, development, and control in CASE.

- a) Dynamic measurement
- b) Data acquisition
- c) Test management
- d) Cross-functional tools

[View Answer](#)

Answer: c

Explanation: None.

5. Which tools cross the bounds of the preceding categories?

- a) Data acquisition
- b) Dynamic measurement
- c) Cross-functional tools
- d) Simulation

[View Answer](#)

Answer: c

Explanation: None.

6. Which environment demands specialized testing tools that exercise the graphical user interface and the network communications requirements for client and server?

- a) Dynamic analysis
- b) Client/Server
- c) Re-engineering
- d) Test management

[View Answer](#)

Answer: b

Explanation: A client/server architecture is GUI based.

7. Which tools are used to modify online database systems?

- a) Reverse engineering specification tools
- b) Code restructuring and analysis tools

- c) Test management tools
- d) online system re-engineering tools

[View Answer](#)

Answer: d

Explanation: For example these tools convert IDMS or DB2 files into entity-relationship format.

8. Which is the definition of objects in the database that leads directly to a standard approach for the creation of software engineering documents.

- a) Document standardization
- b) Data integrity
- c) Information sharing
- d) Data/data integration

[View Answer](#)

Answer: a

Explanation: None.

9. Which of the following term is best defined by the statement: "CASE tools and the target applications are isolated from physical storage so they are not affected when the hardware configuration is changed."?

- a) Non-redundant data storage
- b) Data independence
- c) Data dependence
- d) Ad Hoc data queries and reports

[View Answer](#)

Answer: b

Explanation: None.

10. Which of the following term is best define by the statement:"Each object is stored only once, but is accessible by all CASE tools that need it."?

- a) Non-redundant data storage
- b) Data independence
- c) Transaction control
- d) Ad Hoc data queries and reports

[View Answer](#)

Answer: a

Explanation: None.

1. CASE stands for

- a) Cost Aided Software Engineering
- b) Computer Aided Software Engineering
- c) Control Aided Software Engineering
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: CASE tools purpose is to make the work of software development and maintenance easier and more reliable.

2. CASE tools are used only during the software testing phase.

- a) True

b) False

[View Answer](#)

Answer: b

Explanation: CASE tools support the developer when performing one or more phases of the software life cycle and/or support software maintenance.

3. Which of the following is not a type of CASE tool?

- a) Lower
- b) Classic
- c) Real
- d) Middle

[View Answer](#)

Answer: d

Explanation: Lower and Upper CASE tools support analysis and design.

4. What stores all changes and info related to the project from development through maintenance in CASE tools?

- a) Database
- b) Repository
- c) Registers
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: The main component of real CASE tools is the repository which stores all changes.

5. What kind of support is provided by the Repository Query CASE tool?

- a) Editing text and diagrams
- b) Display of parts of the design texts
- c) Cross referencing queries and requirements tracing
- d) Display of parts of the design texts AND Cross referencing queries and requirements tracing

[View Answer](#)

Answer: d

Explanation: None.

6. What kind of support is provided by the Code Generation CASE tool?

- a) Cross referencing queries and requirements tracing
- b) Transformation of design records into application software
- c) Compiling, interpreting or applying interactive debugging code
- d) Transformation of design records into application software AND Compiling, interpreting or applying interactive debugging code

[View Answer](#)

Answer: b

Explanation: Code Generation tool aids in transformation of design records into prototypes or application software compatible with a given software development language.

7. Logical design errors can be resolved using both classic and real CASE tools.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Classic CASE tools include interactive debuggers and compilers which do not serve the required purpose.

8. CASE-generated updated documentation enables easier and more reliable identification of software failure causes.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: None.

9. What kind of support is provided by the Code Editing CASE tool?

- a) Management of design documents and software code versions
- b) Transformation of design records into application software
- c) Compiling, interpreting or applying interactive debugging code
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: Code editing tool serves the purpose of compiling, interpreting or applying interactive debugging code specific coding language or development tool.

10. Use of the repository assures automated coding and documentation of corrections.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: Use of the repository assures consistency of new applications and improvements with existing software systems.

11. Which of the following is a drawback of using CASE tool?

- a) Standardization of notations and diagrams
- b) Communication between development team member
- c) Costs associated with the use of the tool
- d) Reduction of time and effort

[View Answer](#)

Answer: c

Explanation: Using CASE tools is an expensive approach.

12. An upper CASE tool is also referred to as a back end CASE.

- a) True
- b) False

[View Answer](#)

Answer: b

Explanation: An upper CASE tool (front end CASE) provides support for the early stages in the systems development life cycle such as requirements analysis and design.

13. CASE tools are mainly used while developing which of the following methodologies?

- a) RAD
- b) JAD
- c) OO Approach
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: CASE tools are used in various stages of the Software Development Life Cycle.

1. Which of the following is not a phase of “bathtub curve” of hardware reliability?

- a) Useful Life
- b) Burn-in
- c) Wear-out
- d) Time

[View Answer](#)

Answer: d

Explanation: Time is the horizontal dimension on which the bathtub curve is built and not the phase.

2. How is reliability and failure intensity related to each other?

- a) direct relation
- b) inverse relation
- c) no relation
- d) none of the mentioned

[View Answer](#)

Answer: b

Explanation: As the reliability increases, failure intensity decreases.

3. How many product quality factors are proposed in McCall quality model?

- a) 2
- b) 3
- c) 11
- d) 8

[View Answer](#)

Answer: b

Explanation: McCall quality model has three product quality factors namely: Product revision, Product operation, Product Transition .

4. Which one of the following is not a software quality model?

- a) ISO 9000
- b) McCall model
- c) Boehm model
- d) ISO 9126

[View Answer](#)

Answer: a

Explanation: ISO-9000 series of standards is a set of document dealing with quality systems that can be used for quality assurance purposes.

5. What is MTTF ?

- a) Maximum time to failure

- b) Mean time to failure
- c) Minimum time to failure
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

6. How is software reliability defined?

- a) time
- b) efficiency
- c) quality
- d) speed

[View Answer](#)

Answer: a

Explanation: Software Reliability mainly concerned with the time component. It can be seen in various models like Basic Execution Time Model and Logarithmic Poisson Execution Time Model.

7. Suitability, Accuracy, Interoperability, and security are what type quality attribute of ISO 9126 ?

- a) Reliability
- b) Efficiency
- c) Functionality
- d) Usability

[View Answer](#)

Answer: c

Explanation: All the Characteristics mentioned in the question are related to achievement of the basic purpose for which the software is being engineered, which is functionality.

8. Time Behavior and Resource Behavior fall under which quality attribute of ISO 9126 ?

- a) Reliability
- b) Efficiency
- c) Functionality
- d) Usability

[View Answer](#)

Answer: b

Explanation: The Characteristics mentioned in the question are related to the relationship between the level of performance of the software and the amount of resources used, under stated conditions.

9. NHPP stands for

- a) Non Homogeneous Poisson Product
- b) Non-Hetrogeneous Poisson Product
- c) Non-Hetrogeneous Poisson Process
- d) Non Homogeneous Poisson Process

[View Answer](#)

Answer: d

Explanation: None.

10. The CMM model is a technique to

- a) automatically maintain the software reliability
- b) improve the software process.

- c) test the software
- d) all of the mentioned

[View Answer](#)

Answer: b

Explanation: Capability Maturity Model (CMM) is a strategy for improving the software process, irrespective of the actual life cycle model used.

1. What type of fault remains in the system for some period and then disappears?

- a) Permanent
- b) Transient
- c) Intermittent
- d) All of the mentioned

[View Answer](#)

Answer: b

Explanation: For example many faults in communication systems are transient in nature.

2. Which of the following approaches are used to achieve reliable systems?

- a) Fault prevention
- b) Fault removal
- c) Fault tolerance
- d) All of the mentioned

[View Answer](#)

Answer: d

Explanation: All the options lead to formation of a reliable system.

3. A system maintaining its integrity while accepting a temporary halt in its operation is said to be in a state of

- a) Full Fault Tolerance
- b) Graceful Degradation
- c) Fail Soft
- d) Fail Safe

[View Answer](#)

Answer: d

Explanation: None.

4. Which of the following Error Detection checks is not a part of Application detection?

- a) Hardware checks
- b) Timing checks
- c) Reversal checks
- d) Coding checks

[View Answer](#)

Answer: a

Explanation: Hardware is a part of environment detection check.

5. Exception handling is a type of

- a) forward error recovery mechanism
- b) backward error recovery mechanism
- c) All of the mentioned

d) None of the mentioned

[View Answer](#)

Answer: a

Explanation: Exception handling is a forward error recovery mechanism, as there is no roll back to a previous state; instead control is passed to the handler so that recovery procedures can be initiated.

6. Non-occurrence of improper alteration of information is known as

- a) Available Dependability
- b) Confidential Dependability
- c) Maintainable Dependability
- d) Integral Dependability

[View Answer](#)

Answer: d

Explanation: Integrity is to keep the original content safe from alteration.

7. In N-version programming which is the independent generation of N, the value of N is

- a) greater than 1
- b) less than 1
- c) greater than 2
- d) less than 2

[View Answer](#)

Answer: c

Explanation: N-version programming (NVP), also known as multiversion programming or multiple-version dissimilar software, is a method or process in software engineering where multiple functionally equivalent programs are independently generated from the same initial specifications.

8. In Log-based fault tolerance, logs of undetermined events are saved and replayed on failure.

- a) True
- b) False

[View Answer](#)

Answer: a

Explanation: None.

9. All fault-tolerant techniques rely on

- a) Integrity
- b) Dependability
- c) Redundancy
- d) None of the mentioned

[View Answer](#)

Answer: c

Explanation: All fault-tolerant techniques rely on extra elements introduced into the system to detect & recover from faults.

10. It is imperative for a communicating processes to reach consistent recovery points to avoid the _____ effect, with backward error recovery mechanism.

- a) Static
- b) Dynamic
- c) Domino

d) Whirlpool

[View Answer](#)

Answer: c

Explanation: None.

1. Which one is not a software quality model?

- a) ISO 9000
- b) McCall model
- c) Boehm model
- d) ISO 9126

[View Answer](#)

Answer: a

Explanation: ISO 9000 is software certification.

2. How many levels are present in CMM?

- a) three
- b) four
- c) five
- d) six

[View Answer](#)

Answer: c

Explanation: The five levels are: initial, repeatable, defined, managed, optimizing.

3. Which level of CMM is for process management?

- a) Initial
- b) Repeatable
- c) Defined
- d) Optimizing

[View Answer](#)

Answer: d

Explanation: It is a characteristic of processes at this level that the focus is on continually improving process performance through both incremental and innovative technological changes/improvements.

4. In ISO 9126, time behavior and resource utilization are a part of

- a) maintainability
- b) portability
- c) efficiency
- d) usability

[View Answer](#)

Answer: c

Explanation: A set of attributes that bear on the relationship between the level of performance of the software and the amount of resources used, under stated conditions.

5. Which of the following is not a Probabilistic Model?

- a) Error seeding
- b) NHPP
- c) Input domain
- d) Halstead's software metric

[View Answer](#)

Answer: d

Explanation: Halstead's software metric is a deterministic model.

6. Software reliability is defined with respect to

- a) time
- b) bugs
- c) failures
- d) quality

[View Answer](#)

Answer: a

Explanation: None.

7. Failure In Time (FIT) is another way of reporting

- a) MTTR
- b) MTTF
- c) MTSF
- d) MTBF

[View Answer](#)

Answer: d

Explanation: FIT reports the number of expected failures per one billion hours of operation for a device. This term is used particularly by the semiconductor industry but is also used by component manufacturers.

8. MTTF stands for

- a) Minimum time to failure
- b) Mean time to failure
- c) Maximum time to failure
- d) None of the mentioned

[View Answer](#)

Answer: b

Explanation: None.

9. Mean Time To Repair (MTTR) is the time needed to repair a failed hardware module.

- a) True
- b) False

[View Answer](#)

Answer: a

10. IMC Networks is a leading _____ certified manufacturer of optical networking and LAN/WAN connectivity solutions for enterprise, telecommunications and service provider applications.

- a) Telco Systems
- b) D-Link
- c) Arista Networks
- d) ISO 9001

[View Answer](#)

Answer: a

1. Software is considered to be collection of _____.

- A. programming code
- B. associated libraries
- C. documentations
- D. All of the above

[View Answer](#)

Ans : D

2. The process of developing a software product using software engineering principles and methods is referred to as _____.

- A. Software Engineering
- B. software Evolution
- C. System Models
- D. Software Models

[View Answer](#)

Ans : B

3. Lehman has given laws for software evolution and he divided the software into _____ different categories.

- A. 6
- B. 2
- C. 3
- D. 5

[View Answer](#)

Ans : C

4. Which of the following is not consider laws for E-Type software evolution?

- A. Continuing quality
- B. Continuing change
- C. Increasing complexity
- D. Self-regulation

[View Answer](#)

Ans : A

5. Which of the following laws for E-Type says "E-type software system must continue to adapt to the real world changes, else it becomes progressively less useful".

- A. Continuing growth
- B. Continuing change
- C. Conservation of familiarity
- D. Self-regulation

Ans : B

6. Which of the following is the Characteristics of good software?

- A. Transitional
- B. Operational
- C. Maintenance
- D. All of the above

Ans : D

7. Where there is a need of Software Engineering?

- A. For Large Software
- B. To reduce Cost
- C. Software Quality Management
- D. All of the above

[View Answer](#)

Ans : D

8. The reason for software bugs and failures is due to_____.

- A. Software Developers
- B. Software companies
- C. Both A and B
- D. None of the above

[View Answer](#)

Ans : C

9. Efficiency in a software product does not include _____

- A. licensing
- B. processing time
- C. responsiveness
- D. memory utilization

[View Answer](#)

Ans : A

10. What are attributes of good software ?

- A. Software functionality
- B. Software development
- C. Software maintainability
- D. Both A and C

[View Answer](#)

Ans : D

1. RAD stands for

- A. Rapid Application Development
- B. Required Application Development
- C. Rapid Application Developers
- D. Rapid Application Disposition

[View Answer](#)

Ans : A

Explanation: RAD stands for Rapid Application Development.

2. Which of the following are valid step in SDLC framework?

- A. Requirement Gathering
- B. System Analysis
- C. Software Design
- D. All of the above

[View Answer](#)

Ans : D

Explanation: All of the above are valid step in SDLC framework

3. Which of the following is the first step in SDLC framwork?

- A. Feasibility Study
- B. Requirement Gathering
- C. Communication
- D. System Analysis

[View Answer](#)

Ans : C

Explanation: Communication : This is the first step where the user initiates the request for a desired software product.

4. Which of the following is not correct model in Software Development Paradigm?

- A. Waterfall Model
- B. P model
- C. Spiral Model
- D. V model

[View Answer](#)

Ans : B

Explanation: There is no model name P-Model in Software Development Paradigm.

5. Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code).

- A. 100-200
- B. 300-400
- C. 600-700
- D. Above 800+

[View Answer](#)

Ans : A

Explanation: Build & Fix Model is suitable for small projects & programming exercises of 100 or 200 lines.

6. Waterfall model is not suitable for:

- A. Small projects
- B. Complex projects
- C. Accommodating changes
- D. Maintenance Projects

[View Answer](#)

Ans : C

Explanation: Waterfall model is not suitable for Accommodating changes.

7. In the maintenance phase the product must be tested against previous test cases. This is known as _____ testing.

- A. Unit
- B. Regression
- C. Acceptance
- D. Integration

[View Answer](#)

Ans : B

Explanation: In the maintenance phase the product must be tested against previous test cases. This is known as Regression testing.

8. Which type of integration testing uses stubs?

- A. Top down testing
- B. Bottom up testing
- C. Both in top down and bottom up testing
- D. System testing

[View Answer](#)

Ans : A

Explanation: Top down testing is a type of integration testing uses stubs.

9. Which one of the following is a functional requirement?

- A. Maintainability
- B. Portability
- C. Business needs
- D. Reliability

[View Answer](#)

Ans : C

Explanation: Business needs is a functional requirement.

10. What is the major drawback of using RAD Model?

- A. Highly specialized & skilled developers/designers are required
- B. Increases reusability of components
- C. Encourages customer/client feedback
- D. Increases reusability of components, Highly specialized & skilled developers/designers are required

[View Answer](#)

Ans : D

1. The process to gather the software requirements from client, analyze and document them is known as _____.

- A. Feasibility Study
- B. Requirement Gathering
- C. Requirement Engineering
- D. System Requirements Specification

[View Answer](#)

Ans : C

Explanation: The process to gather the software requirements from client, analyze and document them is known as requirement engineering.

2. The goal of requirement engineering is to develop and maintain sophisticated and descriptive _____ document.

- A. Feasibility Study
- B. Requirement Gathering
- C. Software Requirement Validation
- D. System Requirements Specification

[View Answer](#)

Ans : D

Explanation: The goal of requirement engineering is to develop and maintain sophisticated and descriptive "System Requirements Specification" document.

3. It is the process in which developers discuss with the client and end users and know their expectations from the software.

- A. Requirements gathering
- B. Organizing Requirements
- C. Negotiation & discussion
- D. Documentation

[View Answer](#)

Ans : A

Explanation: Requirements gathering : The developers discuss with the client and end users and know their expectations from the software.

4. Which of the following is correct software metrics?

- A. Complexity Metrics
- B. Quality Metrics
- C. Process Metrics
- D. All of the above

[View Answer](#)

Ans : D

Explanation: All of the above is correct software metrics.

5. Size Metrics denoted by?

- A. LOC
- B. KLOC
- C. GLOC
- D. ZLOC

[View Answer](#)

Ans : B

Explanation: LOC (Lines of Code), mostly calculated in thousands of delivered source code lines, denoted as KLOC.

6. What are the types of requirement in Quality Function Deployment(QFD) ?

- A. Known, Unknown, Undreamed
- B. User, Developer
- C. Functional, Non-Functional
- D. Normal, Expected, Exciting

[View Answer](#)

Ans : D

Explanation: According to QFD, Normal, Expected and Exciting requirements maximizes customer satisfaction from the Software Engineering Process.

7. Why is Requirements Elicitation a difficult task ?

- A. Problem of scope
- B. Problem of understanding
- C. Problem of volatility
- D. All of the above

[View Answer](#)

Ans : D

Explanation: Users specify unnecessary technical detail that may confuse, rather than clarify overall system objectives. Also, the customers/users are not completely sure of what is needed, have a poor understanding of the capabilities and limitations of their computing environment and they do not understand that the requirements change over time.

8. What is the major drawback of CORE ?

- A. Requirements are comprehensive
- B. NFRs are not given enough importance
- C. Role of analyst is passive
- D. All of the above

[View Answer](#)

Ans : C

Explanation: In CORE the requirement specification are put together by all users, customers and analysts, so a passive analyst will not get the requirements properly.

9. How many steps are involved in Feature Oriented Domain Analysis (FODA) ?

- A. 2
- B. 3
- C. 4
- D. 5

[View Answer](#)

Ans : B

Explanation: Context Analysis, Domain Modeling and Architecture Modeling are the three steps involved in Feature Oriented Domain Analysis (FODA).

10. How many phases are there in Brainstorming ?

- A. 2
- B. 3
- C. 4
- D. 5

[View Answer](#)

Ans : B

1. Software design yields _____ levels of results.

- A. 2
- B. 3
- C. 4
- D. 5

[View Answer](#)

Ans : B

Explanation: Software design yields three levels of results: Architectural Design, High-level design, Detailed Design.

2. Which of the following is not an Advantage of modularization?

- A. Smaller components are easier to maintain
- B. Concurrent execution can be made possible
- C. Program cannot be divided based on functional aspects
- D. Desired level of abstraction can be brought in the program

[View Answer](#)

Ans : C

Explanation: Program cannot be divided based on functional aspects is not an Advantage of modularization.

3. How many type of cohesion are there in software design?

- A. 5
- B. 6
- C. 7
- D. 8

[View Answer](#)

Ans : C

Explanation: There are seven types of cohesion: Co-incidental cohesion, Logical cohesion, Temporal Cohesion, Procedural cohesion, Communicational cohesion, Sequential cohesion, Functional cohesion.

4. Which of the following defines the degree of intra-dependability within elements of a module?

- A. Cohesion
- B. Coupling
- C. Design Verification
- D. None of the above

[View Answer](#)

Ans : A

Explanation: Cohesion is a measure that defines the degree of intra-dependability within elements of a module.

5. When multiple modules share common data structure and work on different part of it, it is called _____.

- A. Common coupling
- B. Share coupling
- C. Data coupling
- D. Stamp coupling

[View Answer](#)

Ans : D

Explanation: When multiple modules share common data structure and work on different part of it, it is called stamp coupling.

6. Which tool is use for structured designing ?

- A. Program Chart
- B. Structure chart
- C. Module Chart
- D. All of the above

[View Answer](#)

Ans : B

Explanation: A Structure Chart (SC) in software engineering and organizational theory, is a chart which shows the breakdown of a system to its lowest manageable levels.

7. In Design phase, which is the primary area of concern?

- A. Architecture
- B. Data
- C. Interface
- D. All of the above

[View Answer](#)

Ans : D

Explanation: Part of the design phase is to create structural and behavioral models of the system which is covered by architecture, data and the interface of the product.

8. Which of the following is the best type of module cohesion?

- A. Functional Cohesion
- B. Temporal Cohesion
- C. Functional Cohesion
- D. Sequential Cohesion

[View Answer](#)

Ans : A

Explanation: Functional Cohesion is a type of cohesion in which the tasks performed by a software module all contribute to the performance of a single function.

9. Which of the following is the worst type of module coupling?

- A. Control Coupling
- B. Stamp Coupling
- C. External Coupling
- D. Content Coupling

[View Answer](#)

Ans : D

Explanation: Content coupling occurs when module A changes data of module B or when control is passed from one module to the middle of another.

10. Choose the option that does not define Function Oriented Software Design.

- A. It consists of module definitions
- B. Modules represent data abstraction
- C. Modules support functional abstraction
- D. None of the above

[View Answer](#)

Ans : B

1. What is DFD stands for?

- A. Data Flowchart Diagram
- B. Data Flow Diagram
- C. Depict Flow Diagram
- D. Data Flow Depicts

[View Answer](#)

Ans : C

Explanation: Data flow diagram is graphical representation of flow of data in an information system.

2. Which type of DFD concentrates on the system process, and flow of data in the system?

- A. Physical DFD
- B. Logical DFD
- C. Flowchart DFD
- D. System DFD

[View Answer](#)

Ans : B

Explanation: Logical DFD : This type of DFD concentrates on the system process, and flow of data in the system. For example in a Banking software system, how data is moved between different entities.

3. How many levels of DFD is?

- A. 2
- B. 3
- C. 4
- D. 5

[View Answer](#)

Ans : B

Explanation: There are generally 3 level of DFD: level 0, level 1, level 2.

4. Which of the following is not a component in DFD?

- A. Entities
- B. Attributes
- C. Process
- D. Data Flow

[View Answer](#)

Ans : B

Explanation: Attributes is not a component in DFD.

5. HIPO model was developed by?

- A. Microsoft
- B. AT&T Labs
- C. IBM
- D. Oracle

[View Answer](#)

Ans : C

Explanation: HIPO model was developed by IBM in year 1970.

6. What is level 2 in DFD means?

- A. Highest abstraction level DFD is known as Level 2.
- B. Level 2 DFD depicts basic modules in the system and flow of data among various modules.
- C. Level 2 DFD shows how data flows inside the modules mentioned in Level 1.
- D. All of the above

[View Answer](#)

Ans : C

Explanation: Level 2 : At this level, DFD shows how data flows inside the modules mentioned in Level 1.

7. HIPO stand for?

- A. High Input Process Output
- B. High Input Provide Output
- C. Hierarchical Input Provide Output
- D. Hierarchical Input Process Output

[View Answer](#)

Ans : D

Explanation: HIPO (Hierarchical Input Process Output) diagram is a combination of two organized method to analyze the system and provide the means of documentation.

8. The context diagram is also known as _____.

- A. Level-0 DFD
- B. Level-1 DFD
- C. Level-2 DFD
- D. All of the above

[View Answer](#)

Ans : A

Explanation: Context diagram captures the various entities external to the system interacting with it and data flow occurring between the system and the external entities.

9. A directed arc or line in DFD represents

- A. Data Store
- B. Data Process
- C. Data Flow
- D. All of the above

[View Answer](#)

Ans : C

Explanation: It resembles data flow in the direction of the arrow

10. Which of the following is a function of CASE Tool?

- A. Supporting Structured analysis and design (SA/SD)
- B. Maintaining the data dictionary
- C. Checking whether DFDs are balanced or not
- D. None of the above

[View Answer](#)

Ans : A

1. Which of the following is not true about Software Validation?

- A. Validation ensures the product under development is as per the user requirements.
- B. Validation do not emphasizes on user requirements.
- C. Validation emphasizes on user requirements.
- D. Validation is carried out at the end of the SDLC.

[View Answer](#)

Ans : B

Explanation: Validation do not emphasizes on user requirements is not true about Software Validation.

2. Which of the following is true about Software Verification?

- A. Verification ensures the product being developed is according to design specifications.
- B. Verifications concentrates on the design and system specifications.
- C. Both A and B
- D. None of the above

[View Answer](#)

Ans : C

Explanation: Both option A And B are correct.

3. How many types of software testing exist?

- A. 1
- B. 2
- C. 3
- D. 4

[View Answer](#)

Ans : B

Explanation: Testing can either be done manually or using an automated testing tool.

4. Which of the following is also known as "Behavioral" testing?

- A. Black-box testing
- B. White-box testing
- C. Both A and B
- D. None of the above

[View Answer](#)

Ans : A

Explanation: Black-box testing is carried out to test functionality of the program. It is also called "Behavioral" testing.

5. SRS stands for?

- A. System requirements specification
- B. System respond software
- C. Software respond system
- D. Software requirements specification

[View Answer](#)

Ans : D

Explanation: Software requirements specification(SRS) document : Functional Requirements document

6. In which type of testing : software is compiled as product and then it is tested as a whole?

- A. Integration Testing
- B. Acceptance Testing
- C. Regression Testing
- D. None of the above

[View Answer](#)

Ans : B

Explanation: System Testing : The software is compiled as product and then it is tested as a whole.

7. Which of the following white-box testing technique is to set up test cases which covers all statements and branch conditions?

- A. Data-flow testing
- B. Boundary testing
- C. Control-flow testing
- D. Pair-wise testing

[View Answer](#)

Ans : C

Explanation: Control-flow testing : The purpose of the control-flow testing to set up test cases which covers all statements and branch conditions. The branch conditions are tested for both being true and false, so that all statements can be covered.

8. Exhaustive testing is?

- A. always possible
- B. practically possible
- C. impractical but possible
- D. impractical and impossible

[View Answer](#)

Ans : C

Explanation: Exhaustive testing is the testing where we execute single test case for multiple test data. It means if we are using single test case for different product or module under manual testing.

9. Which of the following is not used in measuring the size of the software?

- A. Size of module
- B. Function Points
- C. KLOC
- D. None of the above

[View Answer](#)

Ans : C

Explanation: KLOC and function points both can be used as size measurement for measuring the size of the software.

10. Test cases should uncover errors like

- A. Nonexistent loop termination
- B. Comparison of different data types
- C. Incorrect logical operators or precedence
- D. All of the above

[View Answer](#)

Ans : D

1. Which of the following is true about Corrective Maintenance?

- A. It includes modifications and updatations done in order to correct or fix problems, which are either discovered by user or concluded by user error reports.
- B. It includes modifications and updatations applied to keep the software product up-to date and tuned to the ever changing world of technology and business environment.
- C. It includes modifications and updates done in order to keep the software usable over long period of time.
- D. It includes modifications and updatations to prevent future problems of the software.

[View Answer](#)

Ans : A

Explanation: Corrective Maintenance : This includes modifications and updatations done in order to correct or fix problems, which are either discovered by user or concluded by user error reports.

2. Which of the following is not a type of maintenance?

- A. Adaptive Maintenance
- B. Preventive Maintenance
- C. Perfective Maintenance
- D. Performative Maintenance

[View Answer](#)

Ans : D

Explanation: Performative Maintenance is not a type of maintenance.

3. The cost of maintenance is as high as _____ of the cost of entire software process cycle.

- A. 0.61
- B. 0.63
- C. 0.67
- D. 0.71

[View Answer](#)

Ans : C

Explanation: A study on estimating software maintenance found that the cost of maintenance is as high as 67% of the cost of entire software process cycle.

4. Which process is used to achieve system specification by thoroughly analyzing, understanding the existing system?

- A. Program Restructuring
- B. Reverse Engineering
- C. Forward Engineering
- D. None of the above

[View Answer](#)

Ans : B

Explanation: Reverse Engineering : It is a process to achieve system specification by thoroughly analyzing, understanding the existing system.

5. In how many categories software Maintenance is classified?

- A. 2
- B. 3
- C. 4
- D. 5

[View Answer](#)

Ans : C

Explanation: Adaptive, corrective, perfective and preventive are the four types of software maintenance.

6. What type of software testing is generally used in Software Maintenance?

- A. Regression Testing
- B. System Testing
- C. Black-box testing
- D. White-box testing

[View Answer](#)

Ans : A

Explanation: Regression Testing is software testing is generally used in Software Maintenance.

7. Which regression test selection technique exposes faults caused by modifications?

- A. Precision
- B. Efficiency
- C. Inclusiveness
- D. Generality

[View Answer](#)

Ans : C

Explanation: Inclusiveness measures the extent to which a technique chooses test cases that will cause the modified program to produce different output than the original program, and thereby expose faults caused by modifications.

8. ACT stands for?

- A. Annual component traffic
- B. Apply component traffic
- C. Annual change track
- D. Annual change traffic

[View Answer](#)

Ans : D

Explanation: ACT : Annual change traffic.

9. The process of obtaining desired software from the specifications in hand.

- A. Re-engineering
- B. Forward Engineering
- C. Reconstructing
- D. Re-engineering

[View Answer](#)

Ans : B

Explanation: Forward engineering is a process of obtaining desired software from the specifications in hand which were brought down by means of reverse engineering. It assumes that there was some software engineering already done in the past.

10. What are legacy systems?

- A. new systems
- B. old systems
- C. under-developed systems
- D. None of the above

[View Answer](#)

Ans : B

1. CASE stands for?

- A. Computer Aid Software Engineering
- B. Computer Application Software Engineering
- C. Computer Aided Software Engineering
- D. Computer Analysis Software Engineering

[View Answer](#)

Ans : C

Explanation: CASE stands for Computer Aided Software Engineering. It means, development and maintenance of software projects with help of various automated software tools.

2. Upper CASE tools are used in _____ stages of SDLC?

- A. planning
- B. analysis
- C. design
- D. All of the above

[View Answer](#)

Ans : D

Explanation: Upper Case Tools : Upper CASE tools are used in planning, analysis and design stages of SDLC.

3. Which of the following tool is helpful in all the stages of SDLC?

- A. Central Repository
- B. Lower Case Tools
- C. Integrated Case Tools
- D. Upper Case Tools

[View Answer](#)

Ans : C

Explanation: Integrated Case Tools : Integrated CASE tools are helpful in all the stages of SDLC, from Requirement gathering to Testing and documentation.

4. Which of the following is not a type of CASE tool?

- A. Diagram tools
- B. Process Modeling Tools
- C. Documentation Tools
- D. Testing tool

[View Answer](#)

Ans : D

Explanation: Testing tool is not a type of CASE tool.

5. In which of the following methodologies CASE tool mainly used?

- A. RAD
- B. OO Approach
- C. JAD
- D. All of the above

[View Answer](#)

Ans : D

Explanation: CASE tools are used in various stages of the Software Development Life Cycle.

6. Which tool is used to assist in designing web pages?

- A. Web Development Tools
- B. Prototyping Tools
- C. Programming Tools
- D. All of the above

[View Answer](#)

Ans : A

Explanation: Web Development Tools : These tools assist in designing web pages with all allied elements like forms, text, script, graphic and so on.

7. Which of the following is not a drawback of CASE tool?

- A. Perform testing easily
- B. Technical limitation
- C. Very difficult for technology transfer
- D. Difficult to select a case tool.

[View Answer](#)

Ans : A

Explanation: Perform testing easily is not a drawback of CASE tool.

8. Where CASE tool is used?

- A. Project management
- B. Schema generation
- C. Data modeling
- D. All of the above

[View Answer](#)

Ans : D

Explanation: Various Uses Of Case tools: Project management, Creation of data dictionary, Design user interface, Code generation, Schema generation, Software testing, Project scheduling, Cost and benefit analysis, Data modeling, Analysis and design for documentation.

9. What kind of support is provided by the Code Generation CASE tool?

- A. Cross referencing queries and requirements tracing
- B. Transformation of design records into application software
- C. Compiling, interpreting or applying interactive debugging code
- D. All of the above

[View Answer](#)

Ans : B

Explanation: Code Generation tool aids in transformation of design records into prototypes or application software compatible with a given software development language.

10. What stores all changes and info related to the project from development through maintenance in CASE tools?

- A. Database
- B. Repository
- C. Register
- D. Files

[View Answer](#)

Ans : B

1. Which of the following model in system modelling depicts the dynamic behaviour of the system?

- A. Behavioral Model
- B. Context Model
- C. Structural Model
- D. Object Model

[View Answer](#)

Ans : A

Explanation: Behavioral models are used to describe the dynamic behavior of an executing system. This can be modeled from the perspective of the data processed by the system or by the events that stimulate responses from a system.

2. Which of the following model in system modelling depicts the static nature of the system ?

- A. Structural Model
- B. External Model
- C. Behavioral Model
- D. Data Model

[View Answer](#)

Ans : A

Explanation: Structural models show the organization and architecture of a system. These are used to define the static structure of classes in a system and their associations.

3. Which of the following perspective in system modelling shows the system or data architecture?

- A. Data perspective
- B. External perspective
- C. Behavioral perspective
- D. Structural perspective

[View Answer](#)

Ans : D

Explanation: Structural perspective is used to define the static structure of classes in a system and their associations.

4. The UML supports event-based modeling using _____ diagrams.

- A. Deployment
- B. Collaboration
- C. State chart
- D. All of the above

[View Answer](#)

Ans : C

Explanation: State diagrams show system states and events that cause transitions from one state to another.

5. Which of the following is true?

- A. Activity diagrams are used to model the processing of data.
- B. Model-driven engineering is just a theoretical concept.
- C. Model-driven engineering cannot be converted into a working/executable code.
- D. All of the above

[View Answer](#)

Ans : A

Explanation: Activity diagrams are used to model the processing of data is true statement.

6. Which of the following diagram is not supported by UML considering Data-driven modeling ?

- A. Activity
- B. Data Flow Diagram (DFD)
- C. State Chart
- D. Component

[View Answer](#)

Ans : B

Explanation: DFDs focus on system functions and do not recognize system objects.

7. Which level of Entity Relationship Diagram (ERD) models all entities and relationships ?

- A. 1
- B. 2

- C. 3
- D. 4

[View Answer](#)

Ans : B

Explanation: Level 1 ERD models all data objects (entities) and their "connections" to one another while Level 3 ERD models all entities, relationships, and the attributes that provide further depth.

8. Which of the following is false?

- A. A data object can encapsulates processes and operation as well.
- B. One creates Behavioral models of a system when you are discussing and designing the system architecture.
- C. Both A and B
- D. None of the above

[View Answer](#)

Ans : C

Explanation: Both option A And B are False statement.

9. Which diagram of UML represent Interaction modeling?

- A. Use Case
- B. Sequence
- C. State Chart
- D. Both A and B

[View Answer](#)

Ans : D

Explanation: Use case modeling is mostly used to model interactions between a system and external actors. Sequence diagrams are used to model interactions between system components, although external agents may also be included.

10. Which of the following statement is incorrect regarding the Class-responsibility-collaborator (CRC) modeling ?

- A. All use-case scenarios (and corresponding use-case diagrams) are organized into categories in CRC modelling
- B. The review leader reads the use-case deliberately
- C. Only developers in the review (of the CRC model) are given a subset of the CRC model index cards
- D. All of the above

[View Answer](#)

Ans : C

1. Defects removal efficiency (DRE)depends on:

- A. E : errors found before software delivery
- B. D : defects found after delivery to user
- C. Both A and B
- D. None of the above

[View Answer](#)

Ans : C

Explanation: Defects removal efficiency (DRE)depends on: Both E and D. $DRE = E / (E + d)$.

2. Which of the following is an indirect measure of product?

- A. Quality
- B. Complexity
- C. Reliability
- D. All of the above

[View Answer](#)

Ans : D

Explanation: All of the above options are indirect measures of a product.

3. Which of the following is not a direct measure of SE process?

- A. Efficiency
- B. Cost
- C. Effort Applied
- D. All of the above

[View Answer](#)

Ans : A

Explanation: Efficiency is an indirect measure.

4. Which of the following is false?

- A. The user has no control over the contents of a static web page.
- B. The static content objects are dependent on the actions of the user.
- C. It is expected to have less number of connections for a good web application.
- D. Both A and B

[View Answer](#)

Ans : B

Explanation: Dynamic Objects are user dependent so The static content objects are dependent on the actions of the useris false statement.

5. Function Point Computation is given by the formula

- A. $FP = [\text{count total} * 0.65] + 0.01 * \sum(F_i)$
- B. $FP = \text{count total} * [0.65 + 0.01 * \sum(F_i)]$
- C. $FP = \text{count total} * [0.65 + 0.01] * \sum(F_i)$
- D. $FP = [\text{count total} * 0.65 + 0.01] * \sum(F_i)$

[View Answer](#)

Ans : B

Explanation: Option b is the correct formula for Function Point Computation.

6. SMI stands for?

- A. Software Mature Indicator
- B. Software Mature Index
- C. Software Maturity Index
- D. Software Maturity Indicator

[View Answer](#)

Ans : C

Explanation: SMI stands for Software Maturity Index

7. Statement and branch coverage metrics are part of

- A. Analysis Model
- B. Source Code
- C. Design Model
- D. Testing

[View Answer](#)

Ans : D

Explanation: These metrics lead to the design of test cases that provide program coverage.

8. Size and Complexity are a part of

- A. Product Metrics
- B. Process Metrics
- C. Project Metrics
- D. None of the above

[View Answer](#)

Ans : A

Explanation: Product Metrics describe the characteristics of product.

9. Number of errors found per person hours expended is an example of a

- A. measurement
- B. measure
- C. metric
- D. None of the above

[View Answer](#)

Ans : C

Explanation: Metric is a quantitative measure of the degree to which a system, component, or process possesses a given attribute.

10. The arc-to-node ratio is given as $r = a/n$. What does "a" represent in the ratio?

- A. maximum number of nodes at any level
- B. longest path from the root to a leaf
- C. number of modules
- D. lines of control

[View Answer](#)

Ans : D

1. “Software engineers shall -

- **act consistently with the public interest.”**
- act in a manner that is in the best interests of his expertise and favour.”
- ensure that their products only meet the SRS.” d) all of the mentioned
- all of the mentioned

2. “Software engineers should not use their technical skills to misuse other people’s computers.” Here the term misuse refers to:

- Unauthorized modification of computer material
- Unauthorized access to computer material
- Dissemination of viruses or other malware
- **All of the above**

What is a Software ?

- Software is documentation and configuration of data
- Software is set of programs
- **Software is set of programs, documentation & configuration of data**
- None of the mentioned

Which of these software engineering activities are not a part of software processes ?

- Software development
- Software dependence
- Software validation
- Software specification

The fundamental notions of software engineering does not account for ?

- Software Security
- Software reuse
- Software processes
- Software Validation

Which one of the following models is not suitable for accommodating any change?

- Prototyping Model
- RAD Model
- Build & Fix Model
- Waterfall Model

SDLC stands for

- System Development Life cycle
- Software Design Life Cycle
- Software Development Life Cycle
- System Design Life Cycle

The spiral model was originally proposed by -

- Barry Boehm
- Pressman
- Royce
- Pressman

If you were to create client/server applications, which model would you go for?

- Concurrent Model
- Spiral Model

- WINWIN Spiral Model
- Incremental Model

Infrastructure software are covered under ?

- Customised Products
- Generic and Customised Products
- **Generic Products**
- None of the above

Build and Fix model has?

- 1 Phases
- **2 Phases**
- 3 Phases
- 4 Phases

White box testing, a software testing technique is sometimes called ?

- Graph Testing
- Basic path
- **Glass box testing**
- Dataflow

Structured programming codes includes ?

- alteration & iteration
- multiple exit from loops
- sequencing
- **only 1 and 3**

The document listing all procedures and regulations that generally govern an organization is the ?

- **Organizing manual**
- Personal poling bank
- Administration policy manual
- Procedure log

Which one of the following is NOT desired in a good Software Requirement Specifications (SRS) document?

- Non-Functional Requirements
- Goals of Implementation
- Functional Requirements
- Algorithms for Software Implementation

COCOMO stands for _____.

- constructive cost Model
- common control Model
- composition cost Model
- consumed cost Model

What is the most common measure for correctness?

- Errors per KLOC
- Defects per KLOC
- \$ per KLOC
- Pages of documentation per KLOC

Line of code(LOC) of the product comes under which type of measures?

- Direct measures
- Coding
- Indirect measures
- None of the above

How many numbers of maturity levels in CMM are available?

- 6
- 5
- 4
- 3

Which of the following is the task of project indicators:

- track potential risk
- help in assessment of status of ongoing project.
- both 1 and 2
- none of the mentioned

Which of the following is not a direct measure of SE process?

- Effort Applied
- Efficiency
- Effort Applied
- All of the mentioned

In size oriented metrics, metrics are developed based on the _____

- number of user inputs
- number of lines of code
- number of Functions
- amount of memory usage

Usability can be measured in terms of:

- Time required to become moderately efficient in system usage
- Net increase in productivity
- Intellectual skill to learn the system
- All of the mentioned

- 1. Component level design is concerned with
 - a. Flow oriented analysis
 - b. Class based analysis
 - c. Both of the above
 - d. None of the above

2. RAD stands for _____.

- a. Rapid and Design
 - b. Rapid Aided Development
 - c. Rapid Application Development
 - d. Rapid Application Design
-

3. Basis path testing falls under

- a. system testing
 - b. white box testing
 - c. black box testing
 - d. unit testing
-

4. _____ is an “umbrella” activity that is applied throughout the software engineering process.

- a. Debugging

- b. Testing
 - c. Designing
 - d. Software quality assurance**
-

- 5. The factors that determine the quality of a software system are
 - a. correctness, reliability
 - b. efficiency, usability, maintainability
 - c. testability, portability, accuracy, error tolerances, expandability, access control, audit
 - d. All of the above**
-

- 6. _____ establishes information about when, why and by whom changes are made in a software.
 - a. Software Configuration Management
 - b. Change Control
 - c. Version Control
 - d. An Audit Trail**
-

- 7. The relationship of data elements in a module is called
 - a. Coupling
 - b. Modularity
 - c. Cohesion**
 - d. Granularity
-

- 8. Software Configuration Management is the discipline for systematically controlling
 - a. the changes due to the evolution of work products as the project proceeds
 - b. the changes due to defects (bugs) being found and then fixed
 - c. the changes due to requirement changes
 - d. all of the above**
-

- 9. Which one of the following is not a step of requirement engineering?
 - a. Requirement elicitation
 - b. Requirement analysis
 - c. Requirement design**
 - d. Requirement documentation
-

- 10. Testing of software with actual data and in actual environment is called
 - a. Alpha testing
 - b. Beta testing**
 - c. Regression testing

- d. None of the above
-
11. Function points can be calculated by
- a. UFP * CAF
 - b. UFP * FAC
 - c. UFP * Cost
 - d. UFP * Productivity
-
- Match the following
- a. data coupling i. module A and module B have shared data
 - b. stamp coupling ii. dependency between modules is based on the fact they communicate by only passing of data
 - c. common coupling iii. when complete structure is passed from one module to another
 - d. content coupling iv. when the control is passed from one module to the middle of another
- codes:
- a b c d
- a. iii ii i iv
 - b. ii iii i iv
 - c. ii iii iv i
 - d. iii ii iv i
-
- A process which defines a series of tasks that have the following four primary objectives is known as
- 1. to identify all items that collectively define the software configuration.
 - 13. 2. to manage changes to one or more of these items.
 - 3. to facilitate the construction of different versions of an application.
 - 4. to ensure that software quality IS maintained as the configuration evolves over time
- a. Software Quality management process
 - b. Software Configuration Management Process
 - c. Software Version Management Process
 - d. Software Change management Process

-
14. One weakness of boundary value analysis and equivalence partitioning is
- they are not effective
 - they do not explore combinations of input circumstances**
 - they explore combinations of input circumstances
 - None of the above
-
15. Which one of the following is not a software myth?
- Once we write the program and get it to work, our job is done
 - Project requirements continually change, but change can be easily accommodated because software is flexible
 - If we get behind schedule, we can add more programmers and catch up
 - If an organization does not understand how to control software projects internally, it will invariably struggle when it outsources software projects**

Match the following with respect to relationship between objects and classes :

- a. state diagram i. useful for both abstract modeling and for designing actual programme
- b. object diagram ii. describes object classes
- 16.
- c. class diagram iii. useful for documenting test cases
- d. instance diagram iv. describing the behavior of a single class of objects

codes:

a b c d

- a. iv i ii iii
- b. ii iii iv i
- c. **iii iv ii i**
- d. ii iv i iii

Match the following style rules for re-usability

- a. Keep methods coherent i. Write a method to get the last element of a list
- 17.
- b. Keep methods small ii. Maintain structure possible parallel when
- c. Keep methods consistent iii. Breaking a method into smaller parts

d. Provide uniform coverage iv performs a single function or a group of closely related functions.

codes:

a b c d

- a. iv iii ii i
 - b. ii i iv iii
 - c. iii iv ii i
 - d. ii iii iv i
-

The software _____ of a program or a computing system is the structure or structures of 18. the system, which comprise software components, the externally visible properties of those components, and the relationships among them.

- a. Design
 - b. **Architecture**
 - c. Process
 - d. Requirement
-

Requirement Development, Organizational Process Focus, Organizational Training, Risk 19. Management and Integrated Supplier Management are process areas required to achieve maturity level

- a. Performed
 - b. Managed
 - c. **Defined**
 - d. Optimized
-

20. Which one of the following set of attributes should not be encompassed by effective software metrics?

- a. Simple and computable
 - b. Consistent and objective
 - c. Consistent in the use of units and dimensions
 - d. **Programming language dependent**
-

21. _____ are applied throughout the software process.

- a. Framework activities
 - b. **Umbrella activities**
 - c. Planning activities
 - d. Construction activities
-

22. What is true about UML stereotypes ?

- a. Stereotype is used for extending the UML language
 - b. Stereotyped class must be abstract
 - c. The stereotype indicates that the UML element cannot be changed
 - d. UML profiles can be stereotyped for backward compatibility
-

23. Which one of the following is not a source code metric?

- a. Halstead metric
 - b. Function point metric
 - c. Complexity metric
 - d. Length metric
-

To compute function points (FP), the following relationship is used $FP = \text{Count} - \text{total } x$

24. $(0.65 + 0.01 x \sum(F_i))$ where F_i ($i = 1$ to n) are value adjustment factors (VAF) based on n questions. The value of n is

- a. 12
 - b. 14
 - c. 16
 - d. 18
-

Assume that the software team defines a project risk with 80% probability of occurrence of risk in the following manner:

25. Only 70 percent of the software components scheduled for reuse will be integrated into the application arid the remaining functionality will have to be custom developed: If 60 reusable components were planned with average component size as ' 100 LOC and software engineering cost for each LOC as \$ 14, then the risk exposure would be

- a. \$ 25,200
 - b. \$ 20,160
 - c. \$ 17,640
 - d. \$ 15,120
-

26. Maximum possible value of reliability is

- a. 100
 - b. 10
 - c. 1
 - d. 0
-

27. 'FAN IN' of a component A is defined as

- a. Count of the number of components that can call, or pass control, to a component A

- b. Number of components related to component A
 - c. Number of components dependent on component A
 - d. None of the above
-

28. Temporal cohesion means

- a. **Coincidental cohesion**
 - b. Cohesion between temporary variables
 - c. Cohesion between local variables
 - d. Cohesion with respect to time
-

Match the following:

- | | |
|--------------------|---|
| a. Good quality | i. Program does not fail for a specified time in a given environment' |
| b. Correctness | ii. Meets the functional requirements |
| 29. c. Predictable | iii. Meets both functional and non-functional requirements , |
| d. Reliable | iv. Process is under statistical control |
-

Codes

a b c d

- a. iii ii iv i
 - b. ii iii iv i
 - c. i ii iv iii
 - d. i ii iii iv
-

Match the following

List - I

List - II

- (a) Size-oriented metric (i) uses number of external interfaces as one of the measurement parameters
30. (b) Function-oriented metrics (ii) originally designed to be applied to business information system
- (c) Extended Function Point Metrics (iii) derived by normalizing quality and/ or productivity measures by considering the size of the software.

(d) Function Point (iv) uses algorithm characteristics as of the measurement parameter

code:

- (a) (b) (c) (d)
- a. (iii) (iv) (i) (ii)
- b. (ii) (i) (iv) (iii)
- c. (iv) (ii) (iii) (i)
- d. (iii) (i) (iv) (ii)

31. In which testing strategy requirements established during requirements analysis are validated against developed software?

- a. Validation testing
 - b. Integration testing
 - c. Regression testing
 - d. System testing
-

32. Which process model is also called as classic life cycle model?

- a. Waterfall model
 - b. RAD model
 - c. Prototyping model
 - d. Incremental model
-

33. Cohesion is an extension of :

- a. Abstraction concept
 - b. Refinement concept
 - c. Information hiding concept
 - d. Modularity
-

34. Which one from the following is highly associated activity of project planning?

- a. Keep track of the project
 - b. Compare actual and planned progress and costs
 - c. Identify the activities, milestones and deliverables produced by a project
 - d. Both b and c
-

35. Module design is used to maximize cohesion and minimize coupling. Which of the following is the key to implement this rule?

- a. Inheritance
- b. Polymorphism

c. Encapsulation

d. Abstraction

36. Verification :

- a. refers to the set of activities that ensure that software correctly implements a specific function
 - b. gives answer to the question - Are we building the product right ?
 - c. requires execution of software
 - d. both a and b**
-

37. Which design metric is used to measure the compactness of the program in terms of lines of code?

- a. Consistency
 - b. Conciseness**
 - c. Efficiency
 - d. Accuracy
-

38. Requirements prioritization and negotiation belongs to :

- a. Requirements validation
 - b. Requirements elicitation**
 - c. Feasibility study
 - d. Requirements reviews
-

39. Adaptive maintenance is a maintenance which _____.

- a. correct errors that were not discovered till testing phase
 - b. is carried out to port the existing software to a new environment**
 - c. improves the system performance
 - d. both b and c
-

40. A Design concept Refinement is a :

- a. Top-down approach
 - b. Complementary of Abstraction concept
 - c. Process of elaboration
 - d. All of the above**
-

41. A software design is highly modular if :

- a. cohesion is functional and coupling is data type**

- b. cohesion is coincidental and coupling is data type
 - c. cohesion is sequential and coupling is content type
 - d. cohesion is functional and coupling is stamp type
-

Match the following for methods of MIS development:

List – I List – II

- (a) Joint Application Design (JAD) (i) Delivers functionality in rapid iteration measured in weeks and needs frequent communication, development, testing and delivery
- (b) Computer Aided Software Engg (ii) Reusable applications generally with one specific function. It is closely linked with idea of web services and service oriented architecture.
- (c) Agile development (iii) Tools to automate many tasks of SDLC
- (d) Component based technology (iv) A group based tool for collecting user requirements and creating system design. Mostly used in analysis and design stages of SDLC

code:

a b c d

- a. (i) (iii) (ii) (iv)
 - b. (iv) (iii) (i) (ii)**
 - c. (iii) (iv) (i) (ii)
 - d. (iii) (i) (iv) (ii)
-

43. Software testing is

- a. the process of establishing that errors are not present
 - b. the process of establishing confidence that a program does what it is supposed to do
 - c. the process of executing a program to show that it is working as per specifications
 - d. the process of executing a program with the intent of finding errors**
-

Assume that a program will experience 200 failures in infinite time. It has now experienced 44. 100 failures. The initial failure intensity was 20 failures/CPU hr. Then the current failure intensity will be

- a. 5 failures/CPU hr
 - b. 10 failures/CPU hr**
 - c. 20 failures/CPU hr
 - d. 40 failures/CPU hr
-

45. Consider a project with the following functional units:

Number of user inputs = 50

Number of user outputs = 40

Number of user inquiries = 35

Number of user files = 06

Number of external interfaces = 04

Assuming all complexity adjustment factors and weighing factors as average, the function points for the project will be

- a. 135
 - b. 722
 - c. 675
 - d. 672
-

Match the following:

List-I

List-II

- | | |
|-------------------|---|
| a. Correctness | i. The extent to which a software tolerates the unexpected problems |
| b. Accuracy | ii. The extent to which a software meets its specifications |
| 46. c. Robustness | iii. The extent to which a software has specified functions |
| d. feof() | iv. Meeting specifications with precision |

Codes:

a b c d

- a. ii iv i iii
 - b. i ii iii iv
 - c. ii i iv iii
 - d. iv ii i iii
-

47. Which one of the following is not a definition of error ?

- a. It refers to the discrepancy between a computed, observed or measured value and the true, specified or theoretically correct value
 - b. It refers to the actual output of software and the correct output
 - c. It refers to a condition that causes a system to fail
 - d. It refers to human action that results in software containing a defect or fault
-

48. Which one of the following is not a key process area in CMM level 5 ?

- a. Defect prevention
- b. Process change management
- c. Software product engineering

d. Technology change management

If S_1 is total number of modules defined in the program architecture, S_3 is the number of 49. modules whose correct function depends on prior processing then the number of modules not dependent on prior processing is:

- a. $1 + S_3/S_1$
 - b. **$1 - S_3/S_1$**
 - c. $1 + S_1/S_3$
 - d. $1 - S_1/S_3$
-

50. The model is preferred for software development when the requirements are not clear.

- a. Rapid Application Development
- b. Rational Unified Process
- c. **Evolutionary Model**
- d. Waterfall Model

51. Which of the following is not included in waterfall model ?

- a. Requirement analysis
 - b. **Risk analysis**
 - c. Design
 - d. Coding
-

52. The extent to which a software tolerates the unexpected problems, is termed as:

- a. Accuracy
 - b. Reliability
 - c. Correctness
 - d. **Robustness**
-

53. Software Engineering is an engineering discipline that is concerned with:

- a. how computer systems work
 - b. theories and methods that underlie computers and software systems
 - c. **all aspects of software production**
 - d. all aspects of computer-based systems development, including hardware, software and process engineering
-

54. Which of the following is not one of three software product aspects addressed by McCall's software quality factors?

- a. Ability to undergo change
- b. Adaptability to new environments

- c. Operational characteristics
 - d. Production costs and scheduling
-

Which of the following statement(s) is/are true with respect to software architecture?

- S1: Coupling is a measure of how well the things grouped together in a module belong together logically.
- S2: Cohesion is a measure of the degree of interaction between software modules.
- S3: If coupling is low and cohesion is high then it is easier to change one module without affecting others.
- a. Only S1 and S2
 - b. Only S3
 - c. All of S1, S2 and S3
 - d. Only S1
-

56. The Prototyping model of software development is:

- a. a reasonable approach when requirements are well-defined
 - b. a useful approach when a customer cannot define requirements clearly
 - c. the best approach to use for projects with large development teams
 - d. a risky model that rarely produces a meaningful product
-

57. A software design pattern used to enhance the functionality of an object at run-time is:

- a. Adapter
 - b. Decorator
 - c. Delegation
 - d. Proxy
-

Which of the following statement(s) is/are TRUE with regard to software testing?

58. I. Regression testing technique ensures that the software product runs correctly after the changes during maintenance.
II. Equivalence partitioning is a white-box testing technique that divides the input domain of a program into classes of data from which test cases can be derived.
- a. only I
 - b. only II
 - c. both I and II
 - d. neither I nor II
-

59. Which of the following are facts about a top-down software testing approach?

- I. Top-down testing typically requires the tester to build method stubs.
 - II. Top-down testing typically requires the tester to build test drivers.

- a. only I
 - b. Only II
 - c. Both I and II
 - d. Neither I nor II

Match the terms related to Software Configuration Management (SCM) in List-I with the descriptions in List-II.

| List-1 | List-II |
|--|---|
| I. Version | A. An instance of a system that is distributed to customers. |
| II. Release | B. An instance of a system which is functionally identical to other instances, but designed for different hardware/software configurations. |
| 60. is functionally identical to other instances, but designed for different hardware/software configurations. | |
| III. Variant | C. An instance of a system that differs, in some way, from other instances. |

Codes:

I II III

- a. B C A
 - b. C A B
 - c. C B A
 - d. B A C

A software project was estimated at 352 Function Points (FP). A four person team will be assigned to this project consisting of an architect, two programmers, and a tester. The salary of the architect is Rs.80,000 per month, the programmer Rs.60,000 per month and the tester Rs.50,000 per month. The average productivity for the team is 8 FP per person month. Which of the following represents the projected cost of the project?

- a. Rs.28,16,000
 - b. Rs.20,90,000
 - c. Rs.26,95,000
 - d. **Rs.27,50,000**

Complete each of the following sentences in List-I on the left hand side by filling in the word or phrase from the List-II on the right hand side that best completes the sentence:

is called

A. Software testing

II. Determining whether you have built the system right

B. Software verification

III. is the process of demonstrating the existence of defects or providing confidence that they do not appear to be present.

C. Software debugging

IV. is the process of discovering the cause of a defect and fixing it.

D. Software validation

Codes:

I II III IV

- a. B D A C
 - b. B D C A
 - c. D B C A
 - d. D B A C

A software company needs to develop a project that is estimated as 1000 function points and is planning to use JAVA as the programming language whose approximate lines of code per function point is accepted as 50. Considering a=1.4 as multiplicative factor, b=1.0 as exponention factor for the basic COCOMO effort equation and c=3.0 as multiplicative factor, d=0.33 as exponention factor for the basic COCOMO duration equation, approximately how long does the project take to complete?

- a. 11.2 months
 - b. **12.2 months**
 - c. 13.2 months
 - d. 10.2 months

Which of the following is used to determine the specificity of requirements ?

64. (A) n_1/n_2 (B) n_2/n_1
 (C) n_1+n_2 (D) n_1-n_2

Where n_1 is the number of requirements for which all reviewers have identical interpretations, n_2 is number of requirements in a specification.

- a. A
 - b. B
 - c. C
 - d. D

65. The major shortcoming of waterfall model is
- the difficulty in accommodating changes after requirement analysis.
 - the difficult in accommodating changes after feasibility analysis.
 - the system testing.
 - the maintenance of system.
-

66. The quick design of a software that is visible to end users leads to
- iterative model
 - prototype model
 - spiral model
 - waterfall model
-

67. For a program of k variables, boundary value analysis yields test cases.
- $4k - 1$
 - $4k$
 - $4k + 1$
 - $2k - 1$
-

68. The extent to which a software performs its intended functions without failures, is termed as
- Robustness
 - Correctness
 - Reliability
 - Accuracy
-

An Operating System (OS) crashes on the average once in 30 days, that is, the Mean Time Between Failures (MTBF) = 30 days. When this happens, it takes 10 minutes to recover the OS, that is, the Mean Time To Repair (MTTR) = 10 minutes. The availability of the OS with these reliability figures is approximately :

- 96.97%
 - 97.97%
 - 99.009%
 - 99.97%
-

Match each software lifecycle model in List – I to its description in List – II:

- | List – I | List – II |
|------------------------------|--|
| 70. I. Code-and-Fix | a. Assess risks at each step; do most critical action first. |
| II. Evolutionary prototyping | b. Build an initial small requirement specifications, code it, then “evolve” the specifications and code |

as needed.

- | | |
|---------------------|---|
| III. Spiral | c. Build initial requirement specification for several releases, then design-and-code in sequence |
| IV. Staged Delivery | d. Standard phases (requirements, design, code, test) in order |
| V. Waterfall | e. Write some code, debug it, repeat (i.e. ad-hoc) |

Codes :

I II III IV V

- a. e b a c d
- b. e c a b d
- c. d a b c e
- d. c e a b d

Match each software term in List – I to its description in List – II:

List – I

- I. Wizards
- II. Templates
- single command
- 71. III. Macro
commonly used tools
- IV. Integrated Software
- V. Software Suite

List – II

- a. Forms that provide structure for a document
- b. A series of commands grouped into a
- c. A single program that incorporates most
- d. Step-by-step guides in application software
- e. Bundled group of software programs

Codes :

I II III IV V

- a. d a b c e
- b. b a d c e
- c. d e b a c
- d. e c b a d

72. The ISO quality assurance standard that applies to software Engineering is

- a. ISO 9000 : 2004
 - b. ISO 9001 : 2000
 - c. ISO 9002 : 2001
 - d. ISO 9003 : 2004
-

73. Which of the following are external qualities of a software product ?

- a. Maintainability, reusability, portability, efficiency, correctness
- b. Correctness, reliability, robustness, efficiency, usability

-
- c. Portability, interoperability, maintainability, reusability
 - d. Robustness, efficiency, reliability, maintainability, reusability
-

Which of the following is/are CORRECT statement(s) about version and release ?

- I. A version is an instance of a system, which is functionally identical but nonfunctionally distinct from other instances of a system.
 - II. A version is an instance of a system, which is functionally distinct in some way from other system instances.
 - III. A release is an instance of a system, which is distributed to users outside of the development team.
 - IV. A release is an instance of a system, which is functionally identical but nonfunctionally distinct from other instances of a system.
- a. I and III
 - b. II and IV
 - c. I and IV
 - d. II and III**
-

- An experimental file server is up 75% of the time and down for 25% of the time due to bugs. How many times does this file server have to be replicated to give an availability of at least 99% ?
-

- a. 2
 - b. 4**
 - c. 8
 - d. 16
-

- A server crashes on the average once in 30 days, that is, the Mean Time Between Failures (MTBF) is 30 days. When this happens, it takes 12 hours to reboot it, that is, the Mean Time to Repair (MTTR) is 12 hours. The availability of server with these reliability data values is approximately:
-

- a. 96.3%
 - b. 97.3%
 - c. 98.3%**
 - d. 99.3%
-

Match the software maintenance activities in List-I to its meaning in List-II.

- | List-I | List-II |
|-------------------|---|
| 77. I. Corrective | (a) Concerned with performing activities to reduce the software complexity thereby improving program understandability and increasing software maintainability. |
-

- | | |
|--|---|
| II. Adaptive software is in use. | (b) Concerned with fixing errors that are observed when the |
| III. Perfective | (c) Concerned with the change in the software that takes place to |
| the software adaptable to new environment (both hardware and software). | make |
| IV. Preventive | (d) Concerned with the change in the software that takes place to |
| make the software adaptable to changing user requirements. | make |

Codes:

- | | I | II | III | IV |
|----|------------|------------|------------|------------|
| a. | (b) | (d) | (c) | (a) |
| b. | (b) | (c) | (d) | (a) |
| c. | (c) | (b) | (d) | (a) |
| d. | (a) | (d) | (b) | (c) |
-

Match each application/software design concept in List-I to its definition in List-II.

- | List-I | List-II |
|------------------|--|
| I. Coupling | (a) Easy to visually inspect the design of the software and understand its purpose. |
| 78. II. Cohesion | (b) Easy to add functionality to a software without having to redesign it. |
| III. Scalable | (c) Focus of a code upon a single goal. |
| IV. Readable | (d) Reliance of a code module upon other code modules. |

Codes:

- | | I | II | III | IV |
|----|------------|------------|------------|------------|
| a. | (b) | (a) | (d) | (c) |
| b. | (c) | (d) | (a) | (b) |
| c. | (d) | (c) | (b) | (a) |
| d. | (d) | (a) | (c) | (b) |
-

79. Software safety is quality assurance activity that focuses on hazards that
- affect the reliability of a software component
 - may cause an entire system to fail**
 - may result from user input errors
 - prevent profitable marketing of the final product
-

80. Which of the following sets represent five stages defined by Capability Maturity Model (CMM) in increasing order of maturity?
- a. Initial, Defined, Repeatable, Managed, Optimized
 - b. Initial, Repeatable, Defined, Managed, Optimized**
 - c. Initial, Defined, Managed, Repeatable, Optimized
 - d. Initial, Repeatable, Managed, Defined, Optimized
81. The number of function points of a proposed system is calculated as 500. Suppose that the system is planned to be developed in Java and the LOC/FP ratio of Java is 50. Estimate the effort (E) required to complete the project using the effort formula of basic COCOMO given below:
- $$E = a(KLOC)b$$
- Assume that the values of a and b are 2.5 and 1.0 respectively.
- a. 25 person months
 - b. 75 person months
 - c. 62.5 person months**
 - d. 72.5 person months
-
82. In software testing, how the error, fault and failure are related to each other?
- a. Error leads to failure but fault is not related to error and failure
 - b. Fault leads to failure but error is not related to fault and failure
 - c. Error leads to fault and fault leads to failure**
 - d. Fault leads to error and error leads to failure
-
83. Which of the following is not a software process model?
- a. Prototyping
 - b. Iterative
 - c. Timeboxing
 - d. Glassboxing**
-
84. Which one of the following non-functional quality attributes is not highly affected by the architecture of the software ?
- a. Performance
 - b. Reliability
 - c. Usability**
 - d. Portability
-
85. In CRC based design, a CRC Team consists of :

- (a) one or two users representatives
 - (b) several programmers
 - (c) project co-ordinators
 - (d) one or two system analysts
- a. (a) and (c)
 - b. (a), (b), (c) and (d)
 - c. (a), (c) and (d)
 - d. (a), (b) and (d)
-

86. Which one of the following statements is incorrect ?

- a. Pareto analysis is a statistical method used for analyzing causes, and is one of the primary tools for quality management.
 - b. Reliability of a software specifies the probability of failure-free operation of that software for a given time duration.
 - c. The reliability of a system can also be specified as the Mean Time To Failure (MTTF).
 - d. In white-box testing, the test cases are decided from the specifications or the requirements.
-

87. Which one of the following statements, related to the requirements phase in Software Engineering, is incorrect ?

- a. “Requirement validation” is one of the activities in the requirements phase.
 - b. “Prototyping” is one of the methods for requirement analysis.
 - c. “Modelling-oriented approach” is one of the methods for specifying the functional specifications.
 - d. “Function points” is one of the most commonly used size metric for requirements.
-

88. KPA in CMM stands for

- a. Key Process Area
 - b. Key Product Area
 - c. Key Principal Area
 - d. Key Performance Area
-

89. Which one of the following is not a risk management technique for managing the risk due to unrealistic schedules and budgets?

- a. Detailed multi source cost and schedule estimation
 - b. Design Cost
 - c. Incremental development
 - d. Information hiding
-

..... of a system is the structure or structures of the system which comprise software elements, the externally visible properties of these elements and the relationship amongst them.

- a. Software construction
- b. Software evolution
- c. **Software architecture**
- d. Software reuse

90. In function point analysis, the number of complexity adjustment factors is

- a. 10
 - b. 12
 - c. **14**
 - d. 20
-

92. Regression testing is primarily related to

- a. Functional testing
 - b. Development testing
 - c. Data flow testing
 - d. **Maintenance testing**
-

93. In which one of the following, continuous process improvement is done?

- a. ISO9001
 - b. RMMM
 - c. **CMM**
 - d. None of the above
-

The of a program or computing system is the structure or structures of the system, which comprise software components, the externally visible properties of these components, and the relationship among them.

- a. E-R diagram
 - b. Data flow diagram
 - c. **Software architecture**
 - d. Software design
-

95. Working software is not available until late in the process in

- a. **Waterfall model**
 - b. Prototyping model
 - c. Incremental model
 - d. Evolutionary Development model
-

96. Equivalence partitioning is a testing method that divides the input domain of a program into classes of data from which test cases can be derived.
- White box
 - Black box**
 - Regression
 - Smoke
-

Consider the following characteristics:

- (i) Correct and unambiguous
(ii) Complete and consistent
97. (iii) Ranked for importance and/or stability and verifiable
(iv) Modifiable and Traceable

Which of the following is true for a good SRS?

- (i), (ii) and (iii)
 - (i), (iii) and (iv)
 - (ii), (iii) and (iv)
 - (i), (ii), (iii) and (iv)**
-

- Equivalence class partitioning approach is used to divide the input domain into a set of equivalence classes, so that if a program works correctly for a value, then it will work correctly for all the other values in that class. This is used

- to partition the program in the form of classes
 - to reduce the number of test cases required**
 - for designing test cases in white box testing
 - all of the above
-

- The failure intensity for a basic model as a function of failures experienced is given as $\lambda(\mu) = \lambda_0[1 - (\mu)/(V_0)]$ where λ_0 is the initial failure intensity at the start of the execution, μ is the average or expected number of failures at a given point in time, the quantity V_0 is the total number of failures that would occur in infinite time.

Assume that a program will experience 100 failures in infinite time, the initial failure intensity was 10 failures/CPU hr. Then the decrement of failures intensity per failure will be

- 10 per CPU hr.
 - 0.1 per CPU hr.
 - 0.1 per CPU hr.**
 - 90 per CPU hr.
-

100. Improving processing efficiency or performance or restructuring of software to improve changeability is known as

- a. Corrective maintenance
 - b. **Perfective maintenance**
 - c. Adaptive maintenance
 - d. Code maintenance
101. Inmodules A and B make use of a common data type, but perhaps perform different operations on it.
- a. Data coupling
 - b. **Stamp coupling**
 - c. Control coupling
 - d. Content coupling
-

102. Sixty (60) reusable components were available for an application. If only 70% of these components can be used, rest 30% would have to be developed from scratch. If average component is 100 LOC and cost of each LOC is Rs 14, what will be the risk exposure if risk probability is 80% ?
- a. Rs 25,200
 - b. **Rs 20,160**
 - c. Rs 25,160
 - d. Rs 20,400
-

103. COCOMO stands for
- a. COMposite COst MOdel
 - b. **CONstructive COst MOdel**
 - c. CONstructive COMposite MOdel
 - d. COmprehensive COnstruction MOdel
-

Match the following:

- | | |
|---------------------|--|
| a. Good quality | i. Program does not fail for a specified time in a given environment |
| b. Correctness | ii. Meets the functional requirements |
| 104. c. Predictable | iii. Meets both functional and non-functional requirements |
| d. Reliable | iv. Process is under statistical control |
-

Codes:

a b c d

- a. **iii ii iv i**
 - b. ii iii iv i
 - c. i ii iv iii
 - d. i ii iii iv
-

105. While estimating the cost of software, Lines of Code (LOC) and Function Points (FP) are used to measure which one of the following?
- Length of code
 - Size of software**
 - Functionality of software
 - None of the above
-

106. A good software design must have
- High module coupling, High module cohesion
 - High module coupling, Low module cohesion
 - Low module coupling, High module cohesion**
 - Low module coupling, Low module cohesion
-

The Software Maturity Index (SMI) is defined as

$$SMI = [Mf - (Fa + Fc + Fd)] / Mf$$

Where

107. M_f = the number of modules in the current release.
 F_a = the number of modules in the current release that have been added.
 F_c = the number of modules in the current release that have been changed.
 F_d = the number of modules in the current release that have been deleted.

The product begins to stabilize when

- SMI approaches 1**
 - SMI approaches 0
 - SMI approaches -1
 - None of the above
-

Match the following:

- | | |
|-------------------------------------|-----------------------|
| a. Watson-Felix model | i. Failure intensity |
| b. Quick-Fix model | ii. Cost estimation |
| c. Putnam resource allocation model | iii. Project planning |
| d. Logarithmic-Poisson Model | iv. Maintenance |
-

Codes:

a b c d

- ii i iv iii
- i ii iv iii
- ii i iii iv
- ii iv iii i**

109. is a process model that removes defects before they can precipitate serious hazards.

- a. Incremental model
 - b. Spiral model
 - c. Cleanroom software engineering
 - d. Agile model
-

110. Equivalence partitioning is a method that divides the input domain of a program into classes of data from which test cases can be derived.

- a. White-box testing
- b. Black-box testing
- c. Orthogonal array testing
- d. Stress testing

The following three golden rules:

111. (i) Place the user in control
(ii) Reduce the user's memory load
(iii) Make the interface consistent are for

- a. User satisfaction
 - b. Good interface design
 - c. Saving system's resources
 - d. None of these
-

112. Software safety is a activity that focuses on the identification and assessment of potential hazards that may affect software negatively and cause an entire system to fail.

- a. Risk mitigation, monitoring and management
 - b. Software quality assurance
 - c. Software cost estimation
 - d. Defect removal efficiency
-

113. Main aim of software engineering is to produce

- a. program
 - b. software
 - c. within budget
 - d. software within budget in the given schedule
-

114. Key process areas of CMM level 4 are also classified by a process which is

- a. CMM level 2
- b. CMM level 3

- c. CMM level 5
 - d. All of the above
-

115. Validation means
- a. are we building the product right
 - b. are we building the right product
 - c. verification of fields
 - d. None of the above
-

116. If a process is under statistical control, then it is
- a. Maintainable
 - b. Measurable
 - c. Predictable
 - d. Verifiable
-

117. In a function oriented design, we
- a. minimize cohesion and maximize coupling
 - b. maximize cohesion and minimize coupling
 - c. maximize cohesion and maximize coupling
 - d. minimize cohesion and minimize coupling
-

118. Which of the following metric does not depend on the programming language used ?
- a. Line of code
 - b. Function count
 - c. Member of token
 - d. All of the above
-

119. Reliability of software is directly dependent on
- a. quality of the design
 - b. number of errors present
 - c. software engineers experience
 - d. user requirement
-

120. While unit testing a module, it is found that for a set of test data, maximum 90% of the code alone were tested with a probability of success 0.9. The reliability of the module is
- a. atleast greater than 0.9
 - b. equal to 0.9
 - c. atmost 0.81
 - d. atleast 1/0.81

121. Are we building the right product ?

This statement refers to

- a. Verification
 - b. Validation**
 - c. Testing
 - d. Software quality assurance
-

122. Which diagram provides a formal graphic notation for modelling objects, classes and their relationships to one another ?

- a. Object diagram**
 - b. Class diagram
 - c. Instance diagram
 - d. Analysis diagram
-

123. The amount of uncertainty in a system of symbol is called

- a. Bandwidth
 - b. Entropy**
 - c. Loss
 - d. Quantum
-

124. For a data entry project for office staff who have never used computers before (user interface and user-friendliness are extremely important), one will use

- a. Spiral model
 - b. Component based model
 - c. Prototyping**
 - d. Waterfall model
-

125. An SRS

- a. establishes the basis for agreement between client and the supplier.
 - b. provides a reference for validation of the final product.
 - c. is a prerequisite to high quality software.
 - d. all of the above.**
-

126. Emergency fixes known as patches are result of

- a. adaptive maintenance
 - b. perfective maintenance
 - c. corrective maintenance**
 - d. none of the above
-

127. Design recovery from source code is done during

- a. reverse engineering
 - b. re-engineering
 - c. reuse
 - d. all of the above
-

128. Following is used to demonstrate that the new release of software still performs the old one did by rerunning the old tests :

- a. Functional testing
 - b. Path testing
 - c. Stress testing
 - d. Regression testing
-

129. Software risk estimation involves following two tasks :

- a. Risk magnitude and risk impact
 - b. Risk probability and risk impact
 - c. Risk maintenance and risk impact
 - d. Risk development and risk impact
-

130. Enterprise Resource Planning (ERP)

- a. has existed for over a decade.
 - b. does not integrate well with the functional areas other than operations.
 - c. is inexpensive to implement.
 - d. automate and integrates the majority of business processes.
-

131. Which of the following is false concerning Enterprise Resource Planning (ERP)?

- a. It attempts to automate and integrate the majority of business processes.
 - b. It shares common data and practices across the enterprise.
 - c. It is inexpensive to implement.
 - d. It provides and access information in a real-time environment.
-

132. Which one of the items listed below is not one of the software engineering layers ?

- a. Process
 - b. Manufacturing
 - c. Method
 - d. Tools
-

133. What is the first stage in program development ?

- a. Specification and design
- b. System Analysis

- c. Testing
 - d. None of the above
-

134. By means of a data flow diagram, the analyst can detect
- a. Task duplication
 - b. Unnecessary delays
 - c. Task overlapping
 - d. All of the above
-

135. Which of these are the 5 generic software engineering framework activities ?
- a. Communication, planning, modelling, construction, deployment
 - b. Communication, risk management, measurement, production, reviewing
 - c. Analysis, designing, programming, Debugging, maintenance
 - d. Analysis, planning, designing, programming, testing
-

136. Many causes of the software crisis can be traced to mythology based on
- a. Management Myths
 - b. Customer Myths
 - c. Practitioner Myths
 - d. All of the above
-

137. “Black” refers in the “Black-box” testing means
- a. Characters of the movie “Black”
 - b. I – O is hidden
 - c. Design is hidden
 - d. Users are hidden
-

138. In generalisation, the differences between members of an entity is
- a. maximized
 - b. minimized
 - c. both a & b
 - d. None of these
-

139. Prototyping is used to
- a. test the software as an end product
 - b. expand design details
 - c. refine and establish requirements
gathering
 - d. None of the above

140. Which one of these are not software maintenance activity?

- a. Error correction
- b. Adaptation
- c. Implementation of Enhancement
- d. Establishing scope

141. The system specification is the first deliverable in the computer system engineering process which does not include

- a. Functional Description
 - b. Cost
 - c. Schedule
 - d. Technical Analysis
-

142. The COCOMO model was introduced in the book title “Software Engineering Economics” authored by

- a. Abraham Silberschatz
 - b. Barry Boehm
 - c. C.J. Date
 - d. D.E. Knuth
-

143. The Warnier diagram enables analyst

- a. to represent information hierarchy in a compact manner
 - b. to further identify requirement
 - c. to estimate the total cost involved
 - d. None of the above
-

144. Software engineering primarily aims on

- a. reliable software
 - b. cost effective software
 - c. reliable and cost effective software
 - d. none of the above
-

145. Top-down design does not require

- a. step-wise refinement
 - b. loop invariants
 - c. flow charting
 - d. modularity
-

146. Which model is simplest model in Software Development?

- a. Waterfall model
 - b. Prototyping
 - c. Iterative
 - d. None of these
-

147. Design phase will usually be

- a. top-down
 - b. bottom-up
 - c. random
 - d. centre fringing
-

148. Software Engineering is a discipline that integrates for the development of computer software.

- a. Process
 - b. Methods
 - c. Tools
 - d. All
-

149. Any error whose cause cannot be identified anywhere within the software system is called
.....

- a. Internal error
 - b. External error
 - c. Inherent error
 - d. Logic error
-

Recorded software attributes can be used in the following endeavours :

- 150. (i) Cost and schedule estimates.
 - (ii) Software product reliability predictions.
 - (iii) Managing the development process.
 - (iv) No where
- a. (i) (ii) (iv)
 - b. (ii) (iii) (iv)
 - c. (i) (ii) (iii)
 - d. (i) (ii) (iii) (iv)
151. Black Box testing is done
- a. to show that s/w is operational at its interfaces i.e. input and output.
 - b. to examine internal details of code.
 - c. at client side.
 - d. none of above.

152. Capability Maturity Model is meant for:

- a. Product
 - b. **Process**
 - c. Product and Process
 - d. None of the above
-

153. In the light of software engineering software consists of:

- a. Programs
 - b. Data
 - c. Documentation
 - d. **All of the above**
-

154. Which one of the following ISO standard is used for software process?

- a. ISO 9000
 - b. ISO 9001
 - c. ISO 9003
 - d. **ISO 9000-3**
-

155. Which of the following is used for test data generation?

- a. White box
 - b. Black box
 - c. **Boundary-value analysis**
 - d. All of the above
-

156. Reverse engineering is the process which deals with:

- a. Size measurement
 - b. Cost measurement
 - c. **Design recovery**
 - d. All of the above
-

157. Software Quality Assurance(SQA) encompasses:

- a. verification
 - b. validation
 - c. **both verification and validation**
 - d. none of the above
-

158. Which level is called as “defined” in capability maturity model?

- a. level 0

- b. level 3
 - c. level 4
 - d. level 1
-

159. COCOMO model is used for:

- a. product quality estimation
 - b. product complexity estimation
 - c. **product cost estimation**
 - d. all of the above
-

160. Water fall model for software development is:

- a. a top down approach
- b. a bottom up approach
- c. **a sequential approach**
- d. a consequential approach

161. In software development, value adjustment factors include the following among others:

- a. **the criticality of the performance and reusability of the code.**
 - b. number of lines of code in the software.
 - c. number of technical manpower and hardware costs.
 - d. time period available and the level of user friendliness.
-

162. While designing the user interface, one should:

- a. use as many short cuts as possible.
 - b. use as many defaults as possible.
 - c. use as many visual layouts as possible.
 - d. **reduce the demand on short-term memory.**
-

163. In software cost estimation, base estimation is related to:

- a. **cost of similar projects already completed.**
 - b. cost of the base model of the present project.
 - c. cost of the project with the base minimum profit.
 - d. cost of the project under ideal situations.
-

164. In clean room software engineering:

- a. only eco-friendly hardware is used.
 - b. only hired facilities are used for development.
 - c. correctness of the code is verified before testing.
 - d. **implementation is done only after ensuring correctness.**
-

165. A major defect in water fall model in software development is that:

- a. the documentation is difficult
 - b. a blunder at any stage can be disastrous
 - c. a trial version is available only at the end of the project
 - d. the maintenance of the software is difficult
-

166. Function point metric of a software also depends on the:

- a. number of function needed
 - b. number of final users of the software
 - c. number of external inputs and outputs
 - d. time required for one set of output from a set of input data
-

167. An error message produced by an interactive system should have:

- a. always the error code
 - b. the list of mistakes done by the user displayed
 - c. a non-judgemental approach
 - d. the past records of the occurrence of the same mistake
-

168. System development cost estimation with use-cases is problematic because:

- a. of paucity of examples
 - b. the data can be totally incorrect
 - c. the expertise and resource available are not used
 - d. the problem is being over simplified
-

169. The approach to software testing is to design test cases to:

- a. break the software
 - b. understand the software
 - c. analyze the design of sub processes in the software
 - d. analyze the output of the software
-

170. Which of the following combination is preferred with respect to cohesion and coupling?

- a. low and low
- b. low and high
- c. high and low
- d. high and high

171. Difference between flow-chart and data-flow diagram is:

- a. there is no difference
- b. usage in high level design and low level design

- c. control flow and data flow
- d. used in application programs and system programs
-

Match the following:

- (a) Unit test (i) Requirements
(b) System test (ii) Design
172. (c) Validation test (iii) Code
(d) Integration test (iv) System Engineering

Which of the following is true?

- (a) (b) (c) (d)
- a. (ii) (iii) (iv) (i)
b. (i) (ii) (iv) (iii)
c. (iii) (iv) (i) (ii)
d. **None of the above**
-

Problems with waterfall model are:

173. 1. Real projects rarely follow this model proposes
2. It is often difficult for the customer
3. Working model is available only in the end
4. Developers are delayed unnecessarily
- a. 1 and 4 only
b. 2 and 3 only
c. 1, 2 and 3 only
d. **1, 2, 3 and 4**
-

174. Which one of the following is a object-oriented approaches:
- a. The Booch method
b. The Rumbaugh method
c. The Coad and Yomdon method
d. **All of the above**
-

175. Which possibility among the following is invalid in case of a Data Flow Diagram ?
- a. A process having in-bound data flows more than out-bound data flows
b. A data flow between two processes
c. **A data flow between two data stores**
d. A data store having more than one in-bound data flows
-

176. Which of the following tools is not required during system analysis phase of system development life cycle?
- Case tool
 - RAD tool
 - Reverse engineering
 - None of these
-

Software Cost Performance index (CPI) is given by:

177. (Where: BCWP stands for Budgeted Cost of Work Performed
BCWS stands for Budget Cost of Work Scheduled
ACWP stands for Actual Cost of Work Performed)
- BCWP/ACWP
 - BCWP–ACWP
 - BCWP–BCWS
 - None of the above
-

178. Software Risk estimation involves following two tasks:
- risk magnitude and risk impact
 - risk probability and risk impact
 - risk maintenance and risk impact
 - risk development and risk impact
-

179. In a object oriented software design, ‘Inheritance’ is a kind of.....
- relationship
 - module
 - testing
 - optimization
-

180. Reliability of software is directly dependent on:
- quality of the design
 - number of errors present
 - software engineer’s experience
 - user requirement

181. ‘Abstraction’ is.....step of Attribute in a software design.
- First
 - Final
 - Last
 - Middle

182. In software project planning, work Breakdown structure must be

- a. A graph
 - b. **A tree**
 - c. A Euler's graph
 - d. None of the above
-

183. In Software Metrics, McCABE's cyclomatic number is given by following formula:

- a. **$c=e-n+2p$**
 - b. $c=e-n-2p$
 - c. $c=e+n+2p$
 - d. $c=e-n*2p$
-

184. In a good software design, coupling is desirable between modules.

- a. Highest
 - b. **Lowest**
 - c. Internal
 - d. External
-

185. System study yields the following:

- a. Requirement specifications
 - b. Prevailing process description
 - c. Data source identification
 - d. **All the above**
-

186. The COCOMO model is used for

- a. software design
 - b. software cost estimation
 - c. software cost approximation
 - d. **software analysis**
-

187. The testing of software against SRS is called:

- a. **Acceptance testing**
 - b. Integration testing
 - c. Regression testing
 - d. Series testing
-

188. The lower degree of cohesion is:

- a. logical cohesion

- b. coincidental cohesion
 - c. procedural cohesion
 - d. communicational cohesion
-

189. The reliability of the software is directly dependent upon:

- a. Quality of the design
 - b. Programmer's experience
 - c. Number of error
 - d. Set of user requirements
-

190. Successive layer of design in software using bottom-up design is called:

- a. Layer of Refinement
- b. Layer of Construction
- c. Layer of abstraction
- d. None of the above

191. Sliding window concept of software project management is:

- a. Preparation of comprehensible plan
 - b. Preparation of the various stages of development
 - c. Ad-hoc planning
 - d. Requirement analysis
-

192. A black hole in a DFD is a:

- a. A data store with no inbound flows
 - b. A data store with only in bound flows
 - c. A data store with more than one in bound flow
 - d. None of these
-

The capability maturity model (err) defines 5 levels:

- | | |
|------------------|------------------|
| (a) Level 1 | (i) Managed |
| (b) Level 2 | (ii) Defined |
| (c) Level 3 | (iii) Repeatable |
| 193. (d) Level 4 | (iv) Initial |
| (e) Level 5 | (v) Optimized |
-

correct matching is:

- | | | | | | |
|----|------|-------|-------|------|------|
| a | b | c | d | e | |
| a. | (i) | (ii) | (iii) | (iv) | (v) |
| b. | (iv) | (iii) | (ii) | (i) | (v) |
| c. | (v) | (i) | (iii) | (ii) | (iv) |

- d. (v) (ii) (i) (iii) (iv)
-

194. Which one of the following is not a software process model ?

- a. Linear sequential model
 - b. Prototyping model
 - c. The spiral model
 - d. **COCOMO model**
-

System Development Life-cycle has following stages:

195. (I) Requirement analysis (II) Coding
 (III) Design (IV) Testing

Which option describes the correct sequence of stages?

- a. III, I, IV, II
 - b. II, III, I, IV
 - c. I, III, IV, II
 - d. **None of the above**
-

196. Which one is measure of software complexity ?

- a. **Number of lines of code (LOC)**
 - b. Number of man years
 - c. Number of function points (FP)
 - d. All of the above
-

197. Which type of coupling is least preferred ?

- a. **Content coupling**
 - b. Data coupling
 - c. Control coupling
 - d. Common coupling
-

198. The main objective of designing various modules of a software system is:

- a. To decrease the cohesion and to increase the coupling
 - b. **To increase the cohesion and to decrease the coupling**
 - c. To increase the coupling only
 - d. To increase the cohesion only
-

199. Three essential components of a software project plan are:

- a. Team structure, Quality assurance plans, Cost estimation

- b. Cost estimation, Time estimation, Quality assurance plan
 - c. Cost estimation, Time estimation, Personnel estimation
 - d. Cost estimation, Personnel estimation, Team structure
-

200. Reliability of software is dependent on:

- a. Number of errors present in software
- b. Documentation
- c. Testing suites
- d. Development Processes

201. In transform analysis, input portion is called:

- a. Afferent branch
 - b. Efferent branch
 - c. Central Transform
 - d. None of the above
-

202. The Function Point (FP) metric is:

- a. Calculated from user requirements
 - b. Calculated from Lines of code
 - c. Calculated from software's complexity assessment
 - d. None of the above
-

203. The process of testing individual components in a software.

- a. Interface Testing
 - b. Partition Testing
 - c. Unit Testing
 - d. Structural Testing
-

204. The approach used for requirements elicitation in software design and development process:

- a. View Points
 - b. Interview
 - c. Use-Cases
 - d. All of these
-

205. Among the following, a representation that can be used for designing a system as a collection of procedures or modules:

- a. Data flow diagrams
- b. Activity Chart
- c. Flow chart

d. ER Modeling

206. Boundary value analysis is a method for:

- a. White box testing
 - b. Black box testing
 - c. Structural testing
 - d. Mutation testing
-

207. Interaction modeling cannot be done using:

- a. State Diagrams
 - b. Use-Cases
 - c. Sequence Diagrams
 - d. Activity Diagrams
-

208. In PERT/CPM, the merge event represents of two or more events.

- a. completion
 - b. beginning
 - c. splitting
 - d. joining
-

209. The Software Requirement Specification (SRS) is said to be if and only if no subset of individual requirements described in it conflict with each other.

- a. Correct
 - b. Consistent
 - c. Unambiguous
 - d. Verifiable
-

210. Software products need perfective maintenance for which of the following reasons?

- a. To rectify bugs observed while the system is in use
 - b. When the customers need the product to run on new platforms
 - c. To support new features that users want it to support
 - d. To overcome wear and tear caused by the repeated use of the software
-

Match each UML diagram in List I to its appropriate description in List II

List I List II

211. (a) State Diagram (i) Describes how the external entities (people, devices) can interact with the system
(b) Use-Case Diagram (ii) Used to describe the static or structural view of a system

- (c) Class Diagram (iii) Used to show the flow of a business process, the steps of a use-case or the logic of an object behaviour
- (d) Activity Diagram (iv) Used to describe the dynamic behaviour of objects and could also be used to describe the entire system behaviour
- a. (a)-(i); (b)-(iv); (c)-(ii); (d)-(iii)
- b. (a)-(iv); (b)-(ii); (c)-(i); (d)-(iii)
- c. (a)-(i); (b)-(iv); (c)-(iii); (d)-(ii)
- d. (a)-(iv); (b)-(i); (c)-(ii); (d)-(iii)
-

Which of the following statements is/are false?

212. P: The clean-room strategy to software engineering is based on the incremental software process model.
- Q: The clean-room strategy to software engineering is one of the ways to overcome “unconscious” copying of copyrighted code.
- a. P only
- b. Q only
- c. Both P and Q
- d. Neither P nor Q
-

213. A legacy software system has 940 modules. The latest release required that 90 of these modules be changed. In addition, 40 new modules were added and 12 old modules were removed. Compute the software maturity index for the system.

- a. 0.849
- b. 0.524
- c. 0.725
- d. 0.923
-

Which of the following statements is/are true?

214. P: Software Reengineering is preferable for software products having high failure rates, having poor design and/or having poor code structure.
- Q: Software Reverse Engineering is the process of analyzing software with the objective of recovering its design and requirement specification.
- a. P only
- b. Q only
- c. Both P and Q
- d. Neither P nor Q
-

215. Which of the following is not one of the principles of agile software development method?

- a. Customer involvement
 - b. Embrace change
 - c. Incremental delivery
 - d. Following the plan
-

Software coupling involves dependencies among pieces of software called modules. Which of the following are correct statements with respect to module coupling?

P: Common coupling occurs when two modules share the same global data.

216. Q: Control coupling occurs when modules share a composite data structure and use only parts of it.

R: Content coupling occurs when one module modifies or relies on the internal working of another module.

Choose the correct answer from the code given below:

- a. P and Q only
 - b. P and R only
 - c. Q and R only
 - d. All of P, Q and R
-

Assume the following regarding the development of a software system P:

- Estimated lines of code of P: 33,480 LOC

- Average productivity for P: 620 LOC per person-month

- Number of software developers: 6

217. - Average salary of a software developer: Rs. 50,000 per month

If E, D and C are the estimated development effort (in person-months), estimated development time (in months), and estimated development cost (in Rs Lac) respectively, then (E, D, C) =

- a. (48, 8, 24)
 - b. (54, 9, 27)
 - c. (60, 10, 30)
 - d. (42, 7, 21)
-

Match the following in Software Engineering:

218. List - I

- (a) Product Complexity
- (b) Structured System Analysis

- (c) Coupling and Cohesion
- (d) Symbolic Execution

List - II

- (i) Software Requirements Definition
- (ii) Software Design
- (iii) Validation Technique
- (iv) Software Cost Estimation

Code:

- (a) (b) (c) (d)
 - a. (ii) (iii) (iv) (i)
 - b. (iii) (i) (iv) (ii)
 - c. (iv) (i) (ii) (iii)
 - d. (iii) (iv) (i) (ii)
-

219. Which one of the following is not typically provided by Source Code Management Software?

- a. Synchronisation
 - b. Versioning and Revision history
 - c. Syntax highlighting
 - d. Project forking
-

220. A software system crashed 20 times in the year 2017 and for each crash, it took 2 minutes to restart. Approximately, what was the software availability in that year?

- a. 96.9924%
- b. 97.9924%
- c. 98.9924%
- d. 99.9924%

Match the 5 CMM Maturity levels/CMMI staged representations in List- I with their characterizations in List-II:

List - I

- (a) Initial
- (b) Repeatable
- 221 (c) Defined
- (d) Managed
- (e) Optimizing

List - II

- (i) Processes are improved quantitatively and continually.

- (ii) The plan for a project comes from a template for plans.
- (iii) The plan uses processes that can be measured quantitatively.
- (iv) There may not exist a plan or it may be abandoned.
- (v) There's a plan and people stick to it.

Code:

- (a) (b) (c) (d) (e)
 - a. (iv) (v) (i) (iii) (ii)
 - b. (i) (ii) (iv) (v) (iii)
 - c. (v) (iv) (ii) (iii) (i)
 - d. (iv) (v) (ii) (iii) (i)
-

Coupling is a measure of the strength of the interconnections between software modules.
Which of the following are correct statements with respect to module coupling?

P: Common coupling occurs when one module controls the flow of another module by
222. passing it information on what to do.

Q: In data coupling, the complete data structure is passed from one module to another
through parameters.

R: Stamp coupling occurs when modules share a composite data structure and use only
parts of it.

- a. P and Q only
 - b. P and R only
 - c. Q and R only
 - d. All of P, Q and R
-

223. A software design pattern often used to restrict access to an object is:

- a. adapter
 - b. decorator
 - c. delegation
 - d. proxy
-

Reasons to re-engineer a software include :

- P: Allow legacy software to quickly adapt to the changing requirements
224. Q: Upgrade to newer technologies/platforms/paradigm (for example, object-oriented)
R: Improve software maintainability
S: Allow change in the functionality and architecture of the software
- a. P, R and S only
 - b. P and R only
 - c. P, Q and S only
 - d. P, Q and R only

225. Which of the following is not a key strategy followed by the clean room approach to software development?

- a. Formal specification
 - b. **Dynamic verification**
 - c. Incremental development
 - d. Statistical testing of the system
-

Which of the following statements is/are True?

226. P: Refactoring is the process of changing a software system in such a way that it does not alter the external behaviour of the code yet improves the internal architecture.

Q: An example of refactoring is adding new features to satisfy a customer requirement discovered after a project is shipped.

- a. **P only**
 - b. Q only
 - c. Both P and Q
 - d. Neither P nor Q
-

227. Software does not wear-out in the traditional sense of the term, but software does tend to deteriorate as it evolves, because

- a. Software suffers from exposure to hostile environments.
 - b. Defects are more likely to arise after software has been used often.
 - c. **Multiple change requests introduce errors in component interactions.**
 - d. Software spare parts become harder to order.
-

228. Software re-engineering is concerned with:

- a. Re-constructing the original source code from the existing machine (low - level) code program and modifying it to make it more user - friendly.
 - b. Scrapping the source code of a software and re-writing it entirely from scratch.
 - c. **Re-organising and modifying existing software systems to make them more maintainable.**
 - d. Translating source code of an existing software to a new machine (low - level) language.
-

229. Which of the following is not a key issue stressed by an agile philosophy of software engineering?

- a. The importance of self-organizing teams as well as communication and collaboration between team members and customers.
- b. Recognition that change represents opportunity.
- c. Emphasis on rapid delivery of software that satisfies the customer.
- d. **Having a separate testing phase after a build phase.**

What is the normal order of activities in which traditional software testing is organized?

230. (a) Integration Testing
(b) System Testing

(c) Unit Testing
(d) Validation Testing

a. (c), (a), (b), (d)

b. (c), (a), (d), (b)

c. (d), (c), (b), (a)

d. (b), (d), (a), (c)

231. Which of the following testing techniques ensures that the software product runs correctly after the changes during maintenance?

a. Path Testing

b. Integration Testing

c. Unit Testing

d. Regression Testing

232. Which of the following statements about ERP system is true?

a. Most ERP software implementations fully achieve seamless integration.

ERP software packages are themselves combinations of separate applications for

b. manufacturing, materials, resource planning, general ledger, human resources, procurement and order entry.

c. Integration of ERP systems can be achieved in only one way.

d. An ERP package implemented uniformly throughout an enterprise is likely to contain very flexible connections to allow changes and software variations.

Answer: (b).ERP software packages are themselves combinations of separate applications for manufacturing, materials, resource planning, general ledger, human resources, procurement and order entry.

233. Statistical software quality assurance in software engineering involves

a. using sampling in place of exhaustive testing of software.

b. surveying customers to find out their opinions about product quality.

c. tracing each defect to its underlying cause, isolating the vital few causes, and moving to correct them.

d. tracing each defect to its underlying causes, and using the Pareto principle to correct each problem found.

234. Which of the following statements is/are FALSE with respect to software testing?

S1 : White-box tests are based on specifications; better at telling whether program meets specification, better at finding errors of omission.

S2 : Black-box tests are based on code; better for finding crashes, out of bounds errors, file not closed errors.

S3 : Alpha testing is conducted at the developer's site by a team of highly skilled testers for software that is developed as a product to be used by many customers.

- a. Only S1 and S2 are FALSE.
 - b. Only S1 and S3 are FALSE.
 - c. Only S2 and S3 are FALSE.
 - d. All of S1, S2, and S3 are FALSE.
-

235. A signal processor software is expected to operate for 91.25 days after repair, and the mean software repair time is expected to be 5 minutes. Then, the availability of the software is :

- a. 96.9862%
 - b. 97.9862%
 - c. 98.9962%
 - d. 99.9962%
-

Consider the method mcq ().

If

M1 = Number of tests to exhaustively test mcq ();

M2 = Minimum number of tests to achieve full statement coverage for mcq (); and

M3 = Minimum number of tests to achieve full branch coverage for mcq ();

then (M1, M2, M3) =

236.

```
int mcq (boolean a, boolean b, boolean c, boolean d)
{
    int ans=1;
    if (a) {ans = 2;}
    else if (b) {ans = 3;}
    else if (c) {
        if (d) {ans=4;}
    }
    return ans ;
}
```

- a. (16, 3, 5)
 - b. (8, 5, 3)
 - c. (8, 3, 5)
 - d. (16, 4, 4)
-

237. A simple stand - alone software utility is to be developed in 'C' programming by a team of software experts for a computer running Linux and the overall size of this software is

estimated to be 20,000 lines of code. Considering (a, b) = (2.4, 1.05) as multiplicative and exponention factor for the basic COCOMO effort estimation equation and (c, d)=(2.5, 0.38) as multiplicative and exponention factor for the basic COCOMO development time estimation equation, approximately how long does the software project take to complete?

- a. 10.52 months
 - b. **11.52 months**
 - c. 12.52 months
 - d. 14.52 months
-

In Software Configuration Management (SCM), which of the following is a use-case supported by standard version control systems?

238. (a) Managing several versions or releases of a software
(b) Filing bug reports and tracking their progress
(c) Allowing team members to work in parallel
(d) Identifying when and where a regression occurred
- a. **Only (a), (c), and (d)**
 - b. Only (a), (b), and (c)
 - c. Only (a), (b), and (d)
 - d. Only (b), (c), and (d)
1. The most important feature of spiral model is
- | | |
|---------------------------|-------------------------------|
| (A) requirement analysis. | (B) risk management. |
| (C) quality management. | (D) configuration management. |

Ans: B

2. The worst type of coupling is
- | | |
|---------------------|-----------------------|
| (B) Data coupling. | (B) control coupling. |
| (C) stamp coupling. | (D) content coupling. |

Ans: D

3. IEEE 830-1993 is a IEEE recommended standard for
- i. Software requirement specification.
 - ii. Software design.
 - iii. Testing.
- Both (A) and(B) Ans: A
4. Changes made to an information system to add the desired but not necessarily the required features is called
- i.Preventative maintenance.
 - ii.Adaptive maintenance.
 - iii.Corrective maintenance.
 - iv.Perfective maintenance.

Ans: D

5. All the modules of the system are integrated and tested as complete system

in the case of

- | | |
|----------------------|----------------------|
| i. Bottom up testing | (B) Top-down testing |
| (C) Sandwich testing | (D) Big-Bang testing |

Ans: D

6. If the objects focus on the problem domain, then we are concerned with
- i. Object Oriented Analysis.
 - ii. Object Oriented Design
 - iii. Object Oriented Analysis & Design
 - iv. None of the above

Ans: A

7. SRS is also known as specification of
- i. White box testing
 - (B) Stress testing
 - (C) Integrated testing
 - (D) Black box testing

Ans: D

8. A COCOMO model is
- i. Common Cost Estimation Model.
 - ii. Constructive Cost Estimation Model.
 - iii. Complete Cost Estimation Model.
 - iv. Comprehensive Cost Estimation Model.

Ans: B

9. In the spiral model ‘risk analysis’ is performed
- i. In the first loop
 - (B) in the first and second loop
 - (C) In every loop
 - (D) before using spiral model

Ans: C

10. Coupling and cohesion can be represented using a
- i. cause-effect graph
 - (B) dependence matrix
 - (C) Structure chart
 - (D) SRS

Ans: B

11. Each time a defect gets detected and fixed, the reliability of a software product
- i. increases.
 - (B) decreases.
 - (C) remains constant.
 - (D) cannot say anything.

Ans: A

12. The level at which the software uses scarce resources is
- i. reliability
 - (B) efficiency
 - (C) portability
 - (D) all of the above

Ans: B

13. Alpha and Beta Testing are forms of
- i. Acceptance testing
 - (B) Integration testing
 - (C) System Testing
 - (D) Unit testing

Ans: A

14. An object encapsulates

- | | |
|------------------|------------------------------------|
| i. Data | (B) Behaviour |
| (C) State | (D) Both Data and behaviour |

Ans: D

15. Number of clauses used in ISO 9001 to specify quality system requirements are:

- | | |
|---------------|---------------|
| (A) 15 | (B) 20 |
| (C) 25 | (D) 28 |

Ans: B

16. Changes made to the system to reduce the future system failure chances is called

- | | |
|-----------------------------------|-----------------------------------|
| i. Preventive Maintenance | (B) Adaptive Maintenance |
| (C) Corrective Maintenance | (D) Perfective Maintenance |

Ans: A

17. The model that assumes that effort and development time are functions of product size alone is

- | | |
|----------------------------------|--|
| i. Basic COCOMO model | (B) Intermediate COCOMO model |
| (C) Detailed COCOMO model | (D) All the three COCOMO models |

Ans: A

18. The testing that focuses on the variables is called

- | | |
|----------------------------------|------------------------------|
| i. black box testing | (B) white box testing |
| (C) data variable testing | (D) data flow testing |

Ans: A

19. Which phase is not available in software life cycle?

- | | |
|------------------------|------------------------|
| i. Coding | (B) Testing |
| (C) Maintenance | (D) Abstraction |

Ans: D

20. Which of these terms is a level name in the Capability Maturity Model?

- | | |
|---------------------|-----------------------|
| i. Ad hoc | (B) Repeatable |
| (C) Reusable | (D) Organized |

Ans: C

21. Top down approach is used for

- | | |
|------------------------------------|--------------------------------------|
| i. development. | (B) identification of faults. |
| (C) testing and validation. | (D) reverse engineering. |

Ans: A

22. What types of models are created during software requirements analysis?

- | | |
|---|---|
| i. Functional and behavioral | (B) Algorithmic and data structure |
| (C) Architectural and structural | (D) Usability and reliability |

Ans: A

- 23.** Software feasibility is based on which of the following

 - i. business and marketing concerns
 - ii. scope, constraints, market
 - iii. technology, finance, time, resources
 - iv. technical prowess of the developers

Ans: C

- 24.** FP-based estimation techniques require problem decomposition based on
(A) information domain values (B) project schedule
(C) software functions (D) process activities

Ans: C

Ans: B

26. What is a class?

- A. An abstract representation of something with certain properties .
 - B. A concrete representation of something with certain properties .
 - C. An abstract representation of something with certain properties and abilities.
 - D. A concrete representation of something with certain properties and abilities

Ans: C

27. Major elements of object model are

- A-Class, Object, Method, Interface
 - B-Class, Property, Inheritance
 - C- Abstraction, Encapsulation, Modularity, Hierarchy
 - D-Abstraction, Class, Polymorphism

Ans: C

28. _____ is a blueprint or prototype that defines the variables and the methods common to all objects of a certain kind. Select the best word to complete this sentence.

- A. Class
 - B. Inheritance
 - C. Polymorphism
 - D. Aggregation

Ans: A

29. Which of the following are not in composition in " Car as a system"

- A. Car and seat covers
- B. Car and music system
- C. Car and color
- D. Car and engine

Ans: B

30. Which diagram is NOT commonly used for illustrating use cases?

- (a) system sequence diagram
- (b) activity diagram
- (c) use case diagram
- (d) collaboration diagram

Ans: D

31. Language is object-oriented if and only if it satisfies the following requirements:

- A- It supports objects that are data abstractions with an interface of named operations and a hidden local state.
- B- Objects have an associated type [class].
- C- Types [classes] may inherit attributes from supertypes [superclasses].
- D- a,b,c

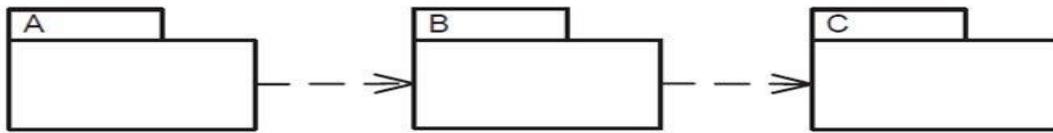
Ans: D

32. -----is the property of an object through which its existence transcends time (i.e., the object continues to exist after its creator ceases to exist) and/or space (i.e., the object's location moves from the address space in which it was created).

- A. Typing
- B. Concurrency
- C. Persistence
- D. Threading

Ans:C

33. What is a true statement about the following packages



- (a) If package C changes, package B must be inspected for necessary changes, and if there are any, package A may have to be adapted as well.
- (b) If package B changes, package A and package C must be inspected for necessary changes.
- (c) Packages should be designed so that a change in one package does not have an effect to other packages.
- (d) If package C changes, package A has to be examined (as well as B), because dependencies are transitive.

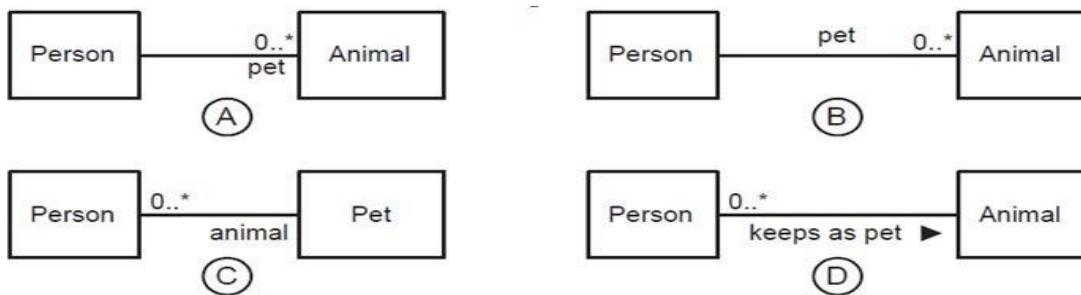
Ans: A

34. If you need to show the physical relationship between software components and the hardware in the delivered system, which diagram can you use

- (a) component diagram
- (b) deployment diagram
- (c) class diagram
- (d) network diagram

Ans: B

35. How do you express that some persons keep animals as pets?



- (a) diagram A
- (b) diagram B
- (c) diagram C
- (d) diagram D

A