1 Questions on Software Engineering Basics

**Software Engineering Questions & Answers – Software Engineering Ethics – 1**

This section on Software Engineering 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 a & b

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.

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) none

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 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

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 a and b

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.

**Software Engineering Questions and Answers – Software Engineering Ethics – 2**

This section on Software Engineering MCQs 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) Both a and b

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) a and b.

e) a,b and c.

View Answer

Answer:d

Explanation: Good software should deliver the required functinality, 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 produces by organization and sold to open market.

c) Customized products are comissioned by particular customer.

d) All of the above.

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 degradance 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.

**Software Engineering Questions and Answers – Software Life Cycle Models**

This section on Software Engineering 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

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: Their 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 unfix-able & 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 phase

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 re-usability of components.

c) Encourages customer/client feedback.

d) Both a & c.

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 b & c

View Answer

Answer:c

Explanation: None.

2 Questions and Answers on Software Processes, Models and Agile Software Development

**Software Engineering Questions and Answers – Evolutionary Software Process Models**

This section on Software Engineering MCQs 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) Spiral Model

e) All are Evolutionary Software Models

View Answer

Answer:e

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) Both b & c

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 360o 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.

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.

**Software Engineering Questions and Answers – Selection of a Life Cycle Model**

This section on Software Engineering MCQs focuses on “Selection of a Life Cycle Model”.

1. Selection of a model is based on

a) Requirements

b) Development team

c) Users

d) Project type and associated risk

e) All of the mentioned

View Answer

Answer:e

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 a & b

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. Thus 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 re-usability of components

b) RAD Model Model facilitates re-usability of components

c) Both RAD & Prototyping Model facilitates re-usability 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.

**Software Engineering Questions and Answers – Fourth Generation Techniques**

This section on Software Engineering 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 a & b

e) Both b & c

View Answer

Answer:e

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

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) wheras 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.

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.

**Software Engineering Questions and Answers – Software Process and Product – 1**

This section on Software Engineering 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 harware platforms or software environments.

2. \_\_\_\_\_\_\_\_\_\_\_\_\_&\_\_\_\_\_\_\_\_\_\_\_\_\_ are two kinds of software products.

a) CAD, CAM

b) Firmware, Embedded

c) Generic, Customised

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) key pad control of a security system

b) pattern recognition game playing

c) digital function of dashboard display in a car

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 a & b

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) Re-usability management

b) Risk management

c) Measurement

d) User Reviews

e) Software quality assurance

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.

**Software Engineering Questions and Answers – Software Process and Product – 2**

This section on Software Engineering MCQs 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.

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

e) Software specification

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.

**Software Engineering Questions and Answers – Agile Software Development**

This section on Software Engineering 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) Responding to change

e) All of the mentioned

View Answer

Answer:e

Explanation: None.

2. Agile Software Development is based on

a) Incremental Development

b) Iterative Development

c) Linear Development

d) Waterfall Model

e) Both a and b

View Answer

Answer:e

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.

3. Which on of the following is not an agile method?

a) XP

b) 4GT

c) AUP

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

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

View Answer

Answer:c

Explanation: Testing is a major part of each software development process which cant 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

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.

**Software Engineering Questions and Answers – Extreme Programming**

This section on Software Engineering 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

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 test development and validation in XP ?

a) Yes

b) No

c) It may vary from Customer to Customer

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 short cuts 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.

3 Questions and Answers on Requirement Engineering

**Software Engineering Questions and Answers – Requirement Engineering**

This section on Software Engineering MCQs focuses on “Requirement Engineering”.

1. What are the types of requirements ?

a) Availability

b) Reliability

c) Usability

d) Flexibility

e) All of the mentioned

View Answer

Answer:e

Explanation: All the mentioned traits are beneficial for an effective product to be developed.

2. Select the developer specific requirement ?

a) Potability

b) Maintainability

c) Availability

d) Both a and b

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

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?.

**Software Engineering Questions and Answers – Functional and Non-Functional Requirements**

This section on Software Engineering 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) Testability

e) None of the mentioned

View Answer

Answer:e

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

View Answer

Answer:a

Explanation: Functional requirements describe what the software has to do.

4. Which of the following statements explains portabililty 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 can 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) Both a and b

e) It refers to the level at which a software system uses scarce computational resources, such as CPU cycles, memory, disk space, buffers and communication channels.

View Answer

Answer:d

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.

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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.

View Answer

Answer:b

Explanation: System response to a local user is 2 seconds on average.

**Software Engineering Questions and Answers – Requirement Elicitation**

This section on Software Engineering MCQs focuses on “Requirement Elicitation”.

1. What is the first step of requirement elicitation ?

a) Identifying Stakeholder

b) Listing out Requirements

c) Requirements Gathering

View Answer

Answer:a

Explanation: Stakeholders are the one who will invest in and use the product, so its essential to chalk out stake holders 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

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 view points.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 maximizes 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 Rambaugh)

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 a and b

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) Traceablity

c) FAST

d) Both a and b

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.

**Software Engineering Questions and Answers – Requirement Elicitation Techniques -1**

This section on Software Engineering MCQs focuses on “Requirement Elicitation Techniques-1”.

1. Which of the following elicitation techniques is a view-point 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

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

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 b and c

e) Both a and c

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.

**Software Engineering Questions and Answers – Requirement Elicitation Techniques – 2**

This section on Software Engineering MCQs 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

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) Overalll 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 – Tranformation

d) W – World view

e) O – Owner

f) E – ER Model

View Answer

Answer:f

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

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 .

**Software Engineering Questions and Answers – Requirement Analysis**

This section on Software Engineering 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

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

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

View Answer

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.

**Software Engineering Questions and Answers – Requirement Documentation**

This section on Software Engineering 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

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

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

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 10secs 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.

**Software Engineering Questions and Answers – Requirement Management**

This section on Software Engineering 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

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

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.

4. Questions on Software Modelling

**Software Engineering Questions and Answers – System Modelling – 1**

This section on Software Engineering MCQs focuses on “System Modelling – 1”.

1. The Unified Modeling Language (UML) has become an effective standard for software modelling.How many different notaions 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

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:

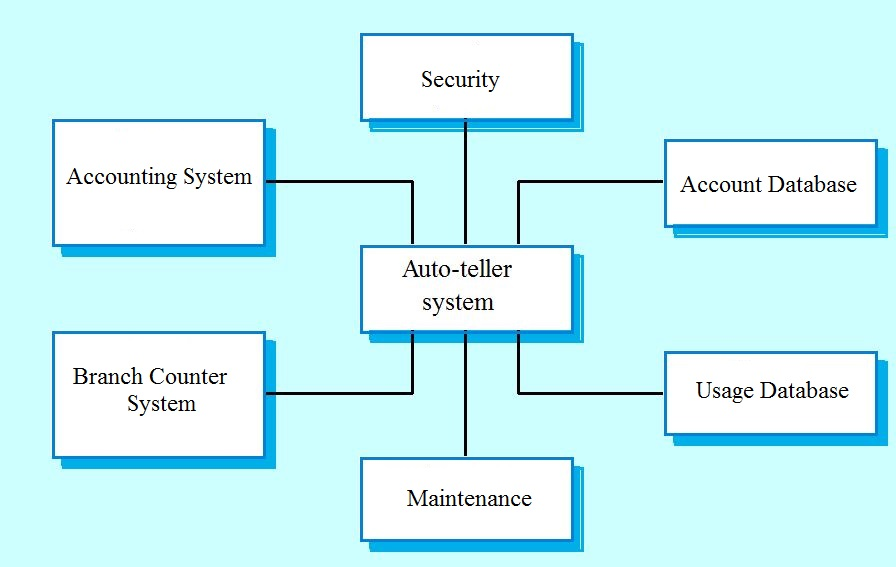
software-engg-context model-example

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

View Answer

Answer:

Explanation: State diagrams show system states and events that cause transitions from one state to another.

**Software Engineering Questions and Answers – System Modelling – 2**

This section on Software Engineering MCQs 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

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

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

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.

7. Questions on Software Design

**Software Engineering Questions and Answers – Software Design**

This section on Software Engineering 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: The answer is self explanatory.

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: The answer is self explanatory.

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: The answer is self explanatory.

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:

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 Desigin 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.

**Software Engineering Questions and Answers – Modularity in Software Design**

This section on Software Engineering 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

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: The answer is self explanatory.

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.

**Software Engineering Questions and Answers – Function Oriented Software Design**

This section on Software Engineering MCQs 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

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 a and b

View Answer

Answer:d

Explanation: The answer is self explanatory.

3. Function-oriented design techniques starts with functional requirements specified in

a) SDD

b) SRS

c) None of the mentioned

View Answer

Answer:b

Explanation: The answer is self explanatory.

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: The answer is self explanatory.

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: The answer is self explanatory.

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 whichfocus 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: The answer is self explanatory.

**Software Engineering Questions and Answers – Function Oriented Design using Structured Analysis Structured Design**

This section on Software Engineering MCQs 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’s methodology

b) DeMarco and Yourdon’s methodology

c) Gane and Sarson’s methodology

d) All of the mentioned

View Answer

Answer:d

Explanation: The answer is self explanatory.

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

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: The answer is self explanatory.

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

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

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) Al of the mentioned

View Answer

Answer:a

Explanation: The answer is self explanatory.

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.

**Software Engineering Questions and Answers – Object Oriented Software Design – 1**

This section on Software Engineering 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.

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: The answer is self explanatory.

3. 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

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) Both a and b

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: The answer is self explanatory.

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

View Answer

Answer:b

Explanation: The answer is self explanatory.

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) Both a and b

View Answer

Answer:c

Explanation: Objects may be distributed and may execute   
sequentially or in parallel.

**Software Engineering Questions and Answers – Object Oriented Software Design – 2**

This section on Software Engineering MCQs focuses on “Object Oriented Software Design – 2”.

1. How many layers are present in the OO design pyramid?

a) three

b) four

c) five

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 a and b

View Answer

Answer:d

Explanation: The answer is self explanatory.

5. Which of the following is conceptually similar to objects?

a) PACKAGE

b) PROC

c) PRIVATE

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 a and b

View Answer

Answer:d

Explanation: The answer is self explanatory.

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:

Explanation: Option c is incorrect as it 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.

9. Questions and Answers on Software Management

**Software Engineering Questions and Answers – Project Management**

This section on Software Engineering MCQs focuses on “Project Management”.

1. 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 costumer complaints.

View Answer

Answer:d

Explanation:Projects need to be managed because professional software engineering is always subject to organizational budget and schedule constraints.

2. Project managers have to assess the risks that may affect a project.

a) True

b) False

View Answer

Answer:b

Explanation:Risk management involves anticipating risks that might affect the project schedule or the quality of the software being developed, and then taking action to avoid these risks.

3. Which of the following is not considered as a risk in project management?

a) Specification delays

b) Product competition

c) Testing

d) Staff turnover

View Answer

Answer:c

Explanation:Testing is a part of project, thus it can’t be categorized as risk.

4. 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

View Answer

Answer:c

Explanation:A proven methodical life cycle is necessary to repeatedly implement and manage projects successfully.

5. A 66.6% risk is considered as

a) very low

b) low

c) moderate

d) high

e) very high

View Answer

Answer:d

Explanation:The probability of the risk might be assessed as very low (<10%), low (10–25%), moderate (25–50%), high (50–75%), or very high (>75%).

6. 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

View Answer

Answer:d

Explanation:Estimation involves working out how much effort is required to complete each activity and, from this, calculating the total cost of activities.

7. Quality planning is the process of developing a quality plan for

a) team

b) project

c) customers

d) project manager

View Answer

Answer:b

Explanation: The quality plan should set out the desired software qualities and describe how these are to be assessed.

8. 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

View Answer

Answer:a

Explanation:Configuration management policies and processes define how to record and process proposed system changes, how to decide what system components to change, how to manage different versions of the system and its components, and how to distribute changes to customers.

9. Identify the sub-process of process improvement

a) Process introduction

b) Process analysis

c) De-processification

d) Process distribution

View Answer

Answer:b

Explanation:The current process is assessed, and process weaknesses and bottlenecks are identified.

10. An independent relationship must exist between the attribute that can be measured and the external quality attribute.

a) True

b) False

View Answer

Answer:b

Explanation:The value of the quality attribute must be related, in some way, to the value of the attribute than can be measured.

Software Engineering Questions and Answers – Project Planning

This section on Software Engineering MCQs focuses on “Project Planning”.

1. 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

View Answer

Answer:a

Explanation:As size increases, the inter-dependency among various elements of the software grows rapidly.

2. What describes the data and control to be processed?

a) Planning process

b) Software scope

c) External hardware

d) Project complexity

View Answer

Answer:b

Explanation:Functions described in the statement of scope are evaluated and in some cases refined to provide more detail prior to the beginning of estimation.

3. 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

View Answer

Answer:c

Explanation:Facilitated application specification techniques

(FAST), this approach encourages the creation of a joint team of customers

and developers who work together to identify the problem, propose elements

of the solution, negotiate different approaches, and specify a preliminary set of

requirements.

4. CLSS stands for

a) conveyor line sorting system

b) conveyor line sorting software

c) conveyor line sorting speed

d) conveyor line sorting specification

View Answer

Answer:a

Explanation:The conveyor line sorting system (CLSS) sorts boxes moving along a conveyor line. Each box is identified by a bar code that contains a part number and is sorted into one of six bins at the end of the line.

5. 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

View Answer

Answer:b

Explanation:The answer is self explanatory

6. The environment that supports the software project is called

a) CLSS

b) SEE

c) FAST

d) CBSE

View Answer

Answer:b

Explanation:Software engineering environment (SEE), incorporates hardware and software.

7. 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.

View Answer

Answer:d

Explanation:The answer is self explanatory.

8. 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

View Answer

Answer:b

Explanation:An estimation model for computer software uses empirically derived formulas to predict effort as a function of LOC or FP.

9. 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

View Answer

Answer:d

Explanation:Demands can vary from client to client.

10. 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

View Answer

Answer:a

Explanation:The answer is self explanatory.

**Software Engineering Questions and Answers – Size and Cost Estimation of Software**

This section on Software Engineering MCQs focuses on “Size and Cost Estimation of Software”.

1. 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

View Answer

Answer:d

Explanation:All these are accounted for in estimating a software’s development cost.

2. 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

View Answer

Answer:c

Explanation:This is a incurred by the employees.

3. 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

View Answer

Answer:a

Explanation:Productivity is expressed in terms of the amount of useful functionality produced in some given time. Function points and object points

are the best-known metrics of this type.

4. 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

View Answer

Answer:a

Explanation:The model uses a basic regression formula with parameters that are derived from historical project data and current as well as future project characteristics.

5. It is often difficult to estimate size at an early stage in a project when only a specification is available

a) True

b) False

View Answer

Answer:a

Explanation:Function-point and object-point estimates are easier to produce than estimates of code size but are often still inaccurate.

6. 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

View Answer

Answer:c

Explanation:The cost of a new project is estimated by analogy with these completed projects.

7. 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

View Answer

Answer:a

Explanation:It is designed to make estimates of prototype development.

8. 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

View Answer

Answer:c

Explanation:The cost is determined by available resources rather than by objective assessment. If the software has to be delivered in 12 months and 5 people are available, the effort required is estimated to be 60 person-months.

9. 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

View Answer

Answer:d

Explanation:Estimates are based on function points, which are then converted to number of lines of source code. The formula follows the standard form discussed above with a simplified set of seven multipliers.

10. 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

View Answer

Answer:c

Explanation:The answer is self explanatory.

11. The COCOMO model takes into account different approaches to software development, reuse, etc.

a) True

b) False

View Answer

Answer:b

Explanation:Its the COCOMO-2 model. COCOMO 2 incorporates a range of sub-models that produce increasingly detailed software estimates.

**Software Engineering Questions and Answers – Emperical Estimation Models**

This section on Software Engineering MCQs focuses on “Emperical Estimation Models”.

1. 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

View Answer

Answer:d

Explanation:Function points and COCOMO are used to evaluate effort.

2. The empirical data that support most estimation models are derived from a vast sample of projects.

a) True

b) False

View Answer

Answer:b

Explanation:The emperical data is derived from a limited sample of projects. For this reason, no estimation model is appropriate for all classes of software and in all development environments.

3. COCOMO stands for

a) Constructive cost model

b) Comprehensive cost model

c) Constructive cost estimation model

d) Complete cost estimation model

View Answer

Answer:a

Explanation:The answer is self explanatory.

4. 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

View Answer

Answer:a

Explanation:The answer is self explanatory.

5. 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

View Answer

Answer:c

Explanation:None.

6. Which one is not a size measure for software product?

a) LOC

b) Halstead’s program length

c) Function Count

d) Cyclomatic Complexity

View Answer

Answer:d

Explanation:It is the part of white box testing.

7.COCOMO was developed initially by

a) B.Beizer

b) Rajiv Gupta

c) B.W.Bohem

d) Gregg Rothermal

View Answer

Answer:c

Explanation:Barry Boehm introduced a hierarchy of software estimation models bearing the name COCOMO, for COnstructive COst MOdel.

8. Estimation of size for a project is dependent on

a) Cost

b) Time

c) Schedule

d) None of the mentioned

View Answer

Answer:d

Explanation:Estimation depends on factors such as Fucntion points and LOC.

9. COCOMO-II was developed at

a) University of Texas

b) University of Southern California

c) MIT

d) IIT-Kanpur

View Answer

Answer:b

Explanation:The answer is self explanatory.

10. 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

View Answer

Answer:a

Explanation:It was a part of COCOMO.

**Software Engineering Questions and Answers – Software Risks and Identification**

This section on Software Engineering MCQs focuses on “Software Risks and Identification”.

1. What all has to be identified as per risk identification?

a) Threats

b) Vulnerabilities

c) Consequences

d) All of the mentioned

View Answer

Answer:d

Explanation:Risk identification states what could cause a potential loss.

2. Which one is not a risk management activity?

a) Risk assessment

b) Risk generation

c) Risk control

d) None of the mentioned

View Answer

Answer:b

Explanation:Risk management activities would never want a new risk to be generated.

3. 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

View Answer

Answer:a

Explanation:The answer is self explanatory.

4. What threatens the quality and timeliness of the software to be produced?

a) Known risks

b) Business risks

c) Project risks

d) Technical risks

View Answer

Answer:d

Explanation:Technical risks identify potential design, implementation, interface, verification, and maintenance problems.

5. What threatens the viability of the software to be built?

a) Known risks

b) Business risks

c) Project risks

d) Technical risks

View Answer

Answer:b

Explanation:Business risks often jeopardize the project or the product.

6. 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

View Answer

Answer:c

Explanation:This is not considered as a business risk.

7. 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

View Answer

Answer:d

Explanation:By identifying known and predictable risks, the project manager takes a first step toward avoiding them when possible and controlling them when necessary.

8. 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

View Answer

Answer:c

Explanation:The answer is self explanatory.

9. 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

View Answer

Answer:a

Explanation:The answer is self explanatory.

10. 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

View Answer

Answer:a

Explanation:The answer is self explanatory.

**Software Engineering Questions and Answers – Managing Software Projects – 1**

This section on Software Engineering MCQs focuses on “Managing Software Projects – 1”.

1. 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

View Answer

Answer:a

Explanation:The answer is self explanatory.

2. Which of the following is not an effective software project management focus?

a) people

b) product

c) popularity

d) process

View Answer

Answer:c

Explanation:Effective software project management focuses on the four P’s: people, product, process, and project.

3. 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

View Answer

Answer:a

Explanation:The people management maturity model defines the following key practice areas for software people: recruiting, selection, performance management, training, compensation, career development, organization and work design, and team/culture development.

4. Which of the following is not a project manager’s activity?

a) project control

b) project management

c) project planning

d) project design

View Answer

Answer:d

Explanation:The design part of any project management is done by the project team.

5. A software \_\_\_\_\_\_\_\_ provides the framework from which a comprehensive plan for software development can be established.

a) people

b) product

c) process

View Answer

Answer:c

Explanation:A small number of framework activities are applicable to all software projects, regardless of their size or complexity.

6. Who defines the business issues that often have significant influence on the project?

a) Practitioners

b) Project managers

c) Senior managers

View Answer

Answer:c

Explanation:The answer is self explanatory.

7. 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

View Answer

Answer:a

Explanation:None.

8. 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

View Answer

Answer:b

Explanation:Open paradigm team structures are well suited to the solution of complex problems but may not perform as efficiently as other teams.

9. Which of the following is a people-intensive activity?

a) Problem solving

b) Organization

c) Motivation

d) Project management

View Answer

Answer:d

Explanation:For this reason, competent practitioners often make poor team leaders.

10. 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

View Answer

Answer:d

Explanation:The answer is self explanatory.

11. Which of the following is not an approach to software cost estimation?

a) Empirical

b) Heuristic

c) Analytical

d) Critical

View Answer

Answer:d

Explanation:Critical is no such standard approach of cost estimation.

**Software Engineering Questions and Answers – Managing Software Projects – 2**

This section on Software Engineering MCQs focuses on “Managing Software Projects – 2”.

1. 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

View Answer

Answer:c

Explanation:The answer is self explanatory.

2. Who interacts with the software once it is released for production use?

a) End-users

b) Client

c) Project (technical) managers

d) Senior managers

View Answer

Answer:a

Explanation:A product is always built to satisfy an end-user.

3. 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

View Answer

Answer:d

Explanation:All are key traits of an effective project manager.

4. 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

View Answer

Answer:a

Explanation:Problem solving remains a group activity, but implementation of solutions is partitioned among subgroups by the team leader.

5. 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

View Answer

Answer:d

Explanation:The answer is self explanatory.

6. Which software engineering team has no permanent leader?

a) Controlled decentralized (CD)

b) Democratic decentralized (DD)

c) Controlled Centralized (CC)

d) None of the above

View Answer

Answer:b

Explanation:Here Communication among team members is horizontal.

7. 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

View Answer

Answer:c

Explanation:Development is irrelevant of social quotient.

8. 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

View Answer

Answer:d

Explanation:The answer is self explanatory.

9. Which activity sits at the core of software requirements analysis?

a) Problem decomposition

b) Partitioning

c) Problem elaboration

d) All of the mentioned

View Answer

Answer:d

Explanation:During the scoping activity decomposition is applied in two major areas: the functionality that must be delivered and the process that will be used to deliver it.

10. 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 customer’s needs.

b) Changes are managed poorly.

c) Sponsorship is gained.

d) Users are resistant.

View Answer

Answer:c

Explanation:Other options are contradictory of the question.

11. 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

View Answer

Answer:b

Explanation:After planning is complete, documenting of the plans is done in a Software Project Management Plan(SPMP) document.

**Software Engineering Questions and Answers – Project Scheduling and Tracking**

This section on Software Engineering MCQs focuses on “Project Scheduling and Tracking”.

1. 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

View Answer

Answer:d

Explanation:The answer is self explanatory.

2. 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

View Answer

Answer:b

Explanation:The answer is self explanatory.

3. 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

View Answer

Answer:c

Explanation:These responsibilities are domain specific.

4. 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

View Answer

Answer:a

Explanation:The answer is self explanatory.

5. 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

View Answer

Answer:b

Explanation:The answer is self explanatory.

6. 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

View Answer

Answer:b

Explanation:Four different degrees of rigor are: casual, structured, strict, and quick reaction.

7. 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

View Answer

Answer:b

Explanation:The answer is self explanatory.

8. 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

View Answer

Answer:b

Explanation:These can vary from client to client.

9. 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

View Answer

Answer:d

Explanation:Program evaluation and review technique (PERT) and critical path method (CPM) are two project scheduling methods that can be applied to software development.

10. A technique for performing quantitative analysis of progress is known as

a) BCWS

b) EVA

c) BAC

d) CBSE

View Answer

Answer:b

Explanation:The earned value system provides a common value scale for every task, regardless of the type of work being performed. The total hours to do the whole project are estimated, and every task is given an earned value based on its estimated percentage of the total.

11. 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

View Answer

Answer:a

Explanation:A recommended distribution of effort across the software process is 40% (analysis and design), 20% (coding), and 40% (testing)‏.

12. A project usually has a timeline chart which was developed by

a) Henry Gantt

b) Barry Boehm

c) Ivar Jacabson

d) None of the mentioned

View Answer

Answer:a

Explanation:Timeline chart, also called a Gantt chart was invented by Henry Gantt, an industrial engineer in 1917 .

**Software Engineering Questions and Answers – Decomposition Techniques in Software Project Planning**

This section on Software Engineering MCQs focuses on “Decomposition Techniques in Software Project Planning”.

1. 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

View Answer

Answer:c

Explanation:For these reasons, we decompose the problem, re-characterizing it as a set of smaller problems.

2. 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

View Answer

Answer:b

Explanation:Estimation uses one or both forms of partitioning.

3. 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

View Answer

Answer:a

Explanation:LOC or Line of Code is a direct measure to estiom ate project size.

4. 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

View Answer

Answer:a

Explanation:The answer is self explanatory.

5. The expected value for the estimation variable (size), S, can be computed as a weighted average of the optimistic(Sopt), most likely (Sm), and pessimistic (Spess) estimates given as

a) EV = (Sopt + 4Sm + Spess)/4

b) EV = (Sopt + 4Sm + Spess)/6

c) EV = (Sopt + 2Sm + Spess)/6

d) EV = (Sopt + 2Sm + Spess)/4

View Answer

Answer:b

Explanation: This assumes that there is a very small probability that the actual size result will fall outside the optimistic or pessimistic values.

6. How many forms exists of Barry Boehm’s COCOMO Model?

a) Two

b) Three

c) Four

d) No form exists

View Answer

Answer:b

Explanation: The three forms include the basic, intermediate and advanced COCOMO model.

7. Who suggested the four different approaches to the sizing problem?

a) Putnam

b) Myers

c) Boehm

d) Putnam and Myers

View Answer

Answer:d

Explanation:The answer is self explanatory.

8. In many cases, it is often more cost effective to acquire, rather than develop, computer software.

a) True

b) False

View Answer

Answer:a

Explanation:Mangers are faced with a make-buy decision in such situations.

9. 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

View Answer

Answer:d

Explanation:The answer is self explanatory..

10. 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

View Answer

Answer:c

Explanation: External inputs, external outputs, external inquiries, internal logical files, external interface files are the five domains.

11. The project planner must reconcile the estimates based on decomposition techniques to produce a single estimate of effort.

a) True

b) False

View Answer

Answer:b

Explanation:The planner must determine the cause of divergence and then reconcile the estimates.

12. 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

View Answer

Answer:a

Explanation:The answer is self explanatory.

13. If an Indirect approach is taken, then the sizing approach is represented as

a) LOC

b) FP

c) Fuzzy Logic

d) LOC and FP

View Answer

Answer:b

Explanation:A function point (FP) is a unit of measurement to express the amount of business functionality an information system provides to a user.

**Software Engineering Questions and Answers – Software Configuration Management – 1**

This section on Software Engineering MCQs focuses on “Software Configuration Management – 1”.

1. 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

View Answer

Answer:d

Explanation:The answer is self explanatory

2. 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

View Answer

Answer:a

Explanation:A baseline is analogous to the kitchen doors in the restaurant. Before a software configuration item becomes a baseline, change may be made quickly and informally.

3. 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

View Answer

Answer:a

Explanation:The answer is self explanatory

4. 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

View Answer

Answer:b

Explanation:Configuration management allows a user to specify alternative configurations of the software system through the selection of appropriate versions.

5. 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

View Answer

Answer:a

Explanation:The answer is self explanatory.

6. 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

View Answer

Answer:a

Explanation:The answer is self explanatory.

7. 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

View Answer

Answer:d

Explanation:All the options are tracked.

8. Which of the following is not a Software Configuration Management Activity?

a) Configuration item identification

b) Risk management

c) Release management

d) Branch management

View Answer

Answer:b

Explanation:Risk management is an entirely different domain.

9. 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

View Answer

Answer:d

Explanation:It is defined in all the mentioned options.

10. 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

View Answer

Answer:b

Explanation:The answer is self explanatory.

**Software Engineering Questions and Answers – Software Configuration Management – 2**

This section on Software Engineering MCQs focuses on “Software Configuration Management – 2”.

1. 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

View Answer

Answer:b

Explanation:In configuration control changes are managed and all versions of components are identified and stored for the lifetime.

2. 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

View Answer

Answer:a

Explanation:It involves approving those changes that are worthwhile, and tracking which components in the system have been changed.

3. 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

View Answer

Answer:b

Explanation:All other options are a part of version management.

4. 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

View Answer

Answer:a

Explanation:In keeping with the agile methods notion of making many small changes, continuous integration involves rebuilding the mainline frequently, after small source code changes have been made.

5. Which of the following is not a build system feature?

a) Minimal recompilation

b) Documentation generation

c) Storage management

d) Reporting

View Answer

Answer:c

Explanation:To reduce the storage space required by multiple versions of components that differ only slightly, version management systems usually provide storage management facilities.

6. 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 above

View Answer

Answer:c

Explanation:Baselines are controlled, which means that the versions of the components making up the system cannot be changed.

7. Which of the following is a configuration item?

a) Design specification

b) Source code

c) Test specification

d) Log information

e) All of the mentioned

View Answer

Answer:e

Explanation:A configuration item is an approved and accepted deliverable, changes have to be made through formal procedure.

8. 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

View Answer

Answer:d

Explanation:Release creation is the process of creating the collection of files and documentation that includes all of the components of the system release.

9. 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 above

View Answer

Answer:b

Explanation:The answer is self explanatory.

10. 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

View Answer

Answer:a

Explanation:The code may then be developed independently.

12. Questions and Answers on Design and Implementation

**Software Engineering Questions and Answers – Unified Modelling Language**

This section on Software Engineering 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: False

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 (a) and (b)

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

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.

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 these

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.

**Software Engineering Questions and Answers – Building Blocks of UML**

This section on Software Engineering 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:The answer is self explanatory.

4. What is a physical element that exists at run time 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:The answer is self explanatory.

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.

Software Engineering Questions and Answers – Diagrams in UML – 1

This section on Software Engineering 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

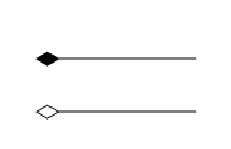
d) Activity

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

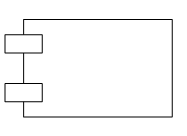
d) Association

View Answer

Answer:a

Explanation: The figure is self explanatory.

3. Which core element of UML is being shown in the figure?



a) Node

b) Interface

c) Class

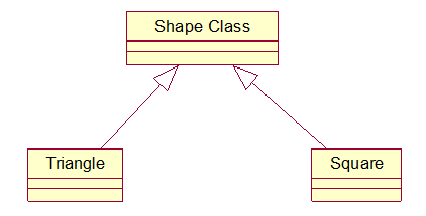
d) Component

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 sub class of super class 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

View Answer

Answer:b

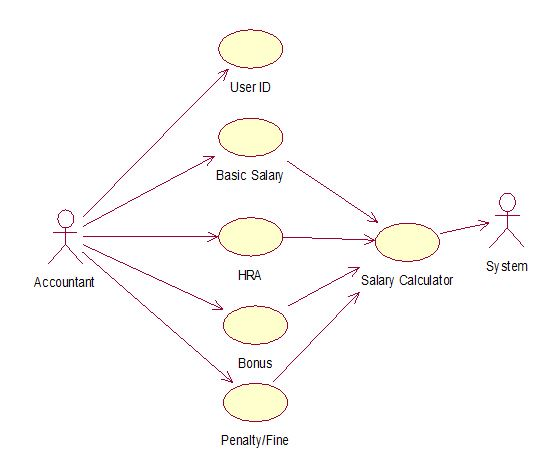
Explanation: A sequence diagrams timeline along which tasks are completed.

**Software Engineering Questions and Answers – Diagrams in UML – 2**

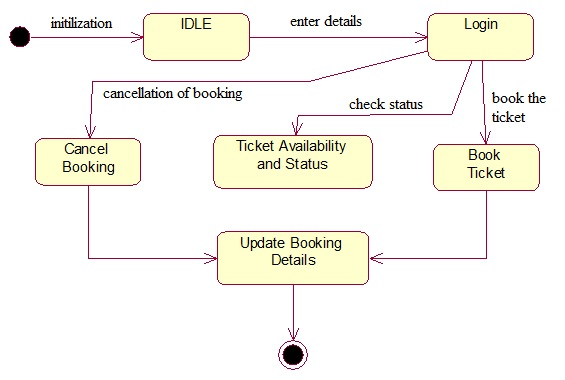
This section on Software Engineering MCQs focuses on “Diagrams in UML – 2”.

1. How many diagrams are here in Unified Modelling Language?  
a) six  
b) seven  
c) eight  
d) nine  
View Answer

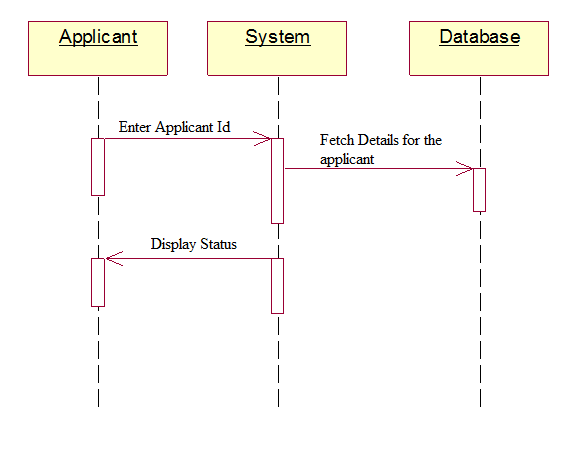
Answer:d  
Explanation: The nine UML diagrams include use-case, sequence, collaboration, activity, state-chart, deployment, class, object and component.

2. Which UML diagram is shown below?  
[](http://www.sanfoundry.com/?attachment_id=56166)  
a) Use Case  
b) Collaboration Diagram  
c) Class Diagram  
d) Object Diagram  
View Answer

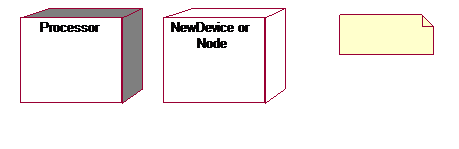
Answer:a  
Explanation: The diagram is self explanatory.

3. Which UML diagram is shown below?  
[](http://www.sanfoundry.com/?attachment_id=56168)  
a) Use Case  
b) State Chart  
c) Activiy  
d) Object Diagram  
View Answer

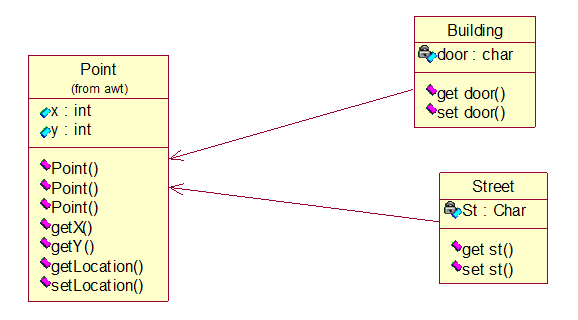
Answer:b  
Explanation: The diagram is self explanatory.

4. Which UML diagram is shown below?  
[](http://www.sanfoundry.com/?attachment_id=56169)  
a) Use Case  
b) Collaboration Diagram  
c) Sequence Diagram  
d) Object Diagram  
View Answer

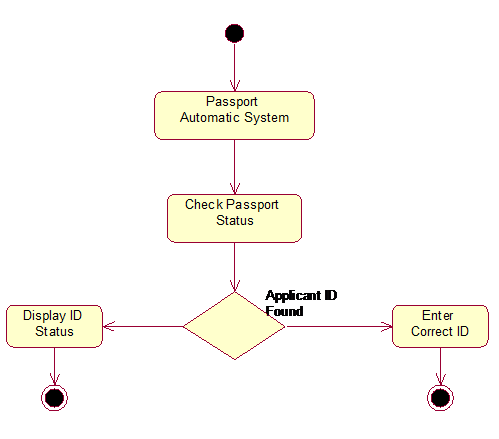
Answer:c  
Explanation: The diagram is self explanatory.

5. Which UML diagram’s symbols are shown below?  
[](http://www.sanfoundry.com/?attachment_id=56173)  
a) Deployment diagram  
b) Collaboration Diagram  
c) Component Diagram  
d) Object Diagram  
View Answer

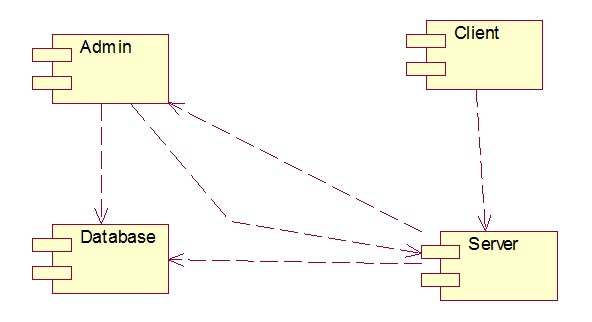
Answer:a  
Explanation: The diagram is self explanatory.

6. Which UML diagram is shown below?  
[](http://www.sanfoundry.com/?attachment_id=56174)  
a) Deployment diagram  
b) Collaboration Diagram  
c) Object Diagram  
d) Class Diagram  
View Answer

Answer:d  
Explanation: The diagram is self explanatory.

7. Which UML diagram is shown below?  
[](http://www.sanfoundry.com/?attachment_id=56175)  
a) Activity  
b) State chart  
c) Sequence  
c) Collaboration  
View Answer

Answer:a  
Explanation: The diagram is self explanatory.

8. Which UML diagram is shown below?  
[](http://www.sanfoundry.com/?attachment_id=56176)  
a) Component  
b) Deployment  
c) Use Case  
d) DFD  
View Answer

Answer:a  
Explanation: The diagram is self explanatory.

**Software Engineering Questions and Answers – Object Oriented Design using UML**

This section on Software Engineering 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:The answer is self explanatory.

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:The answer is self explanatory.

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.

**Software Engineering Questions and Answers – Analysis Modelling**

This section on Software Engineering 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:The answer is self explanatory.

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 .

**Software Engineering Questions and Answers – Component Level Design**

This section on Software Engineering 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:The answer is self explanatory.

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:The answer is self explanatory.

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 above

View Answer

Answer:b

Explanation:The answer is self explanatory.

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.

Software Engineering Questions and Answers – User Interface Design

This section on Software Engineering 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:The answer is self explanatory

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.

**Software Engineering Questions and Answers – Test Case Design**

This section on Software Engineering 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:The answer is self explanatory.

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

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:The answer is self explanatory.

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.

**Software Engineering Questions and Answers – Software Design Pattern**

This section on Software Engineering 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:The answer is self explanatory.

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’s 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.

**16. Questions and Answers on Software Testing and Quality Management**

**Software Engineering Questions and Answers – Software Testing Techniques – 1**

This section on Software Engineering 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

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 these

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

9. Boundary value analysis belong to?

a) White Box Testing

b) Black Box Testing

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

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.

Software Engineering Questions and Answers – Software Testing Techniques – 2

This section on Software Engineering MCQs 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

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

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

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

View Answer

Answer: c

Explanation: KLOC and function points both can be used as size measurement for measuring the size of the software.

**Software Engineering Questions and Answers – Software Testing Strategies**

This section on Software Engineering 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:The answer is self explanatory.

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.

**Software Engineering Questions and Answers – Object Oriented Testing**

This section on Software Engineering 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 above

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

e) All of the mentioned

View Answer

Answer:c

Explanation:The answer is self explanatory.

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 above

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:The answer is self explanatory.

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:The answer is self explanatory.

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.

**Software Engineering Questions and Answers – Debugging Techniques and Approaches**

This section on Software Engineering 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 indepoendent 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:The answer is self explanatory.

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 pointwer 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.

**Software Engineering Questions and Answers – Testing Tools**

This section on Software Engineering MCQs focuses on “Testing Tools”.

1. Standard Enforcer is a

a) Static Testing Tool

b) Dynamic Testing

View Answer

Answer:a

Explanation: Static Testing tools are those that perform analysis of the 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

View Answer

Answer:c

Explanation: The answer is self explanatory.

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 b & c

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 o 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: The answer is self explanatory.

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: The answer is self explanatory.

**Software Engineering Questions and Answers – Software Monitoring**

This section on Software Engineering MCQs focuses on “Software Monitoring”.

1. Why is software difficult to build ?

a) Controlled changes

b) Lack of reuseability

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 succesful 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:The answer is self explanatory.

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:The answer is self explanatory.

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:The answer is self explanatory.

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 above

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:The answer is self explanatory.

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.

**Software Engineering Questions and Answers – Software Control**

This section on Software Engineering MCQs focuses on “Software Control”.

1. SCM stands for

a) Software Control Management

b) Software Configuration Management

c) Software Concept Management

d) None of the above

View Answer

Answer:b

Explanation:In software engineering, software configuration management (SCM) is the task of tracking and controlling changes in the software, part of the larger cross-discipline field of configuration management.

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:The answer is self explanatory.

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

Explanation:All are main phases of CM.

4. CM is about managing the different items in the product, and changes in them.

a) True

b) False

View Answer

Answer:a

Explanation:The answer is self explanatory.

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

Explanation:It allows software engineers to continue development along a branch even when a line of development is frozen.

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

Explanation:All are required for a change.

7. Configuration management (CM) is needed to deliver product to the client

a) True

b) False

View Answer

Answer:a

Explanation:The answer is self explanatory.

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

Explanation:In configuration management, a “baseline” is an agreed-to description of the attributes of a product, at a point in time, which serves as a basis for defining change.

9. How are baselines verified?

a) By reviews

b) By inspections

c) By testing of code

d) All of the above

View Answer

Answer:c

Explanation:Testing verifies the agreed-to description.

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

Explanation:All are covered in CM.

11. SCM controls only the products of the development process.

a) True

b) False

View Answer

Answer:a

Explanation:The answer is self explanatory.

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

Explanation:The answer is self explanatory.

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

Explanation:A baseline is an agreed-to description of the product, changes require multiple reasons..

**Software Engineering Questions and Answers – Quality Management**

This section on Software Engineering 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 non-conforming products

d) Servicing

View Answer

Answer:a

Explanation:The answer is self explanatory.