Software Engineering MCQ

1) What is software engineering?

Process of discovering or finding knowledge from a large amount of data.

Processing antique artifacts.

Process of developing software using the scientific process.

None of the above.

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Answer: c) Process of developing software using scientific process.

Explanation: Software engineering is the process of developing executable software using scientific processes and structures which enables a better structure.

2) What is the use of software engineering?

Huge programming

Adaptability

Cost

Dynamic Nature

Quality management

. II

. III

. I, II, III

. All of the above

Show Answer Workspace

Answer: d) All of the above

Explanation: Significant uses of software engineering are:-

Huge programming

Adaptability

Cost

Dynamic Nature

Quality management

3) What are the benefits of software engineering?

. To Reduce complexity

. To minimize software costing

. To decrease time

. Handling big projects

. Reliable soft wares

. effectiveness

. II

. III

. I, II, III

. All of the above

Show Answer Workspace

Answer: d) All of the above

Explanation: Significant benefits of software engineering are:

To Reduce complexity

To minimize software costing

To decrease time

Handling big projects

Reliable soft wares

Effectiveness

4) What is a workflow model?

. A model that represents all the positives and negatives of a complex system.

. A model that represents lower-level activities.

. A model that represents the action of people.

. A model that represents inputs and outputs along with the function of a model.

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Answer: d) Model that represents inputs and outputs along with the function of a model.

Explanation: A WORKFLOW MODEL is a model that represents inputs and outputs along with the function of the model and the human actions involved in the process.

5) What is a dataflow/activity model?

. A model that represents all the positives and negatives of a complex system.

. A model that represents lower-level activities.

. A model that represents the action of people.

. A model that represents inputs and outputs along with the function of a model.

Show Answer Workspace

Answer: b) Model that represents lower-level activities.

Explanation: A-Data Flow / Activity Model represents the functioning as steps, where each step shows some data transformation.

6) What is a role/action model?

. A model that represents all the positives and negatives of a complex system.

. A model that represents lower-level activities.

. A model that represents the action of people.

. A model that represents inputs and outputs along with the function of a model.

Show Answer Workspace

Answer: c) A model that represents the action of people.

Explanation: A Role / Action Model represents the role and action of people involved in the software functioning.

7) What does SDLC stand for?

. STRUCTURAL DEVELOPMENT LIFE CYCLE

. STRUCTURAL DESIGNING LIFE CYCLE

. SOFTWARE DESIGNING LIFE CYCLE

. SOFTWARE DEVELOPMENT LIFE CYCLE

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Answer: d) SOFTWARE DEVELOPMENT LIFE CYCLE

Explanation: SDLC stands for Software Development Life Cycle Is a representation of software and its entire life cycle with pictures and graphics.

8) Arrange the stages of SDLC in order?

. Testing

. Developing the project

. Designing the software

. Defining requirements

. Planning and requirement analysis

. Deployment

. Maintenance

. I, II, III, V, VI, IV, VII

. II, I, III, V, VI, IV, VII

. III, II, II, V, VI, IV, VII

. V, IV, III, II, I, VI, VII

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Answer: d) V, IV, III, II, I, VI, VII

Explanation: The stages of the Software development life cycle come in order

Planning and requirement analysis -> Defining requirements -> Designing the software -> Developing the project -> Testing -> Deployment -> maintenance

9) What are Planning and requirement analysis in SDLC?

. Process of getting an insight about what type of software the client needs.

. Creating a document from the information gathered from the client.

. Creating a demo project.

. None of the above.

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Answer: a) Process of getting an insight about what type of software the client needs.

Explanation: The Planning and requirement analysis gathers information from the client about what functions he/she needs in the software, or what information the end-user will get, quality analysis, risk identification, and all other analytics required for better working of the software.

10) What are the Defining requirements in SDLC?

. Process of getting an insight about what type of software the client needs.

. Creating a document from the information gathered from the client.

. Creating a demo project.

. None of the above.

Show Answer Workspace

Answer: b) Creating a document from the information gathered from the client.

Explanation: Defining requirements stands for representing all the information gathered from the client and market research into a standard documentation model.

11) What is Developing in SDLC?

. Process of getting an insight about what type of software the client needs.

. Creating a document from the information gathered from the client.

. Creating a demo project.

. None of the above.

Show Answer Workspace

Answer: c) Creating a demo project.

Explanation: Developing stands for creating the basic structure and programming of the software by keeping all the information gathered from analytics in mind.

12) What is Testing in SDLC?

. Process of getting an insight about what type of software the client needs.

. Creating a document from the information gathered from the client.

. Testing all the aspects of the developed software.

. None of the above.

Show Answer Workspace

Answer: c) Testing all the aspects of the developed software.

Explanation: Testing stands for testing all the pros, cons, and the working of software to make sure it delivers the correct output to the user.

13) What are the major SDLC models?

. Waterfall model

. RAD model

. V model

. Increment model

. Agile model

. I, II

. II

. III

. All of the above

Show Answer Workspace

Answer: d) All of the above.

Explanation: Majorly used SDLC models are:-

Waterfall model

RAD model

V model

Increment model

Agile model

Iterative model

Big bang model

14) What is Requirement engineering?

. Process of defining, documenting, and requirement maintenance.

. Enables an organization to know based on databases.

. It enables a user to find hidden patterns.

. None of the above.

Show Answer Workspace

Answer: a) Process of defining, documenting, and requirement maintenance.

Explanation: Requirement engineering is the process where defining, documenting, and required maintenance of the designing process take place.

15) State the steps of requirement engineering?

. Feasibility Study.

. Requirement Elicitation and Analysis.

. Software Requirement Specification.

. Software Requirement Validation.

. IV

. I, II

. II, III

. All of the above

Show Answer Workspace

Answer: d) All of the above.

Explanation: Requirement engineering involves 4 steps-

Feasibility Study – defines the need of developing software.

Requirement Elicitation and Analysis – gathering requirements.

Software Requirement Specification – documentation created by a software analyst.

Software Requirement Validation – re-verification of the created document.

16) What is a Waterfall model?

. A model is divided into smaller parts, and the requirement and functioning of every part is defined before development.

. Model in which software is developed with a series of advanced releases.

. Model n which steps resemble a waterfall and, one has to complete each phase to proceed to the next.

. Model in which requirements are divided into modules, and each module undergoes a separate cycle.

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Answer: c) Model n which steps resemble a waterfall and one has to complete each phase to proceed to the next.

Explanation: A waterfall model is one in which all the steps resemble a waterfall, and the developer has to complete each step to proceed to move to the next.

17) Which of the following models doesn't require defining requirements at the starting of the life cycle?

. RAD

. Waterfall

. Prototyping

. Spiral

. I, III

. I, II, III

. III, IV

. All of the above

Show Answer Workspace

Answer: c) III, IV

Explanation:

Prototyping model – first step requirement analysis. Spiral model – first step communicating with a customer.

18) What is the RAD model?

. A model is divided into smaller parts, and the requirement and functioning of every part is defined before development.

. Model in which development takes place in a limited time.

. Model n which steps resemble a waterfall and, one has to complete each phase to proceed to next.

. Model in which requirements are divided into modules, and each module undergoes a separate cycle.

Show Answer Workspace

Answer: b) Model in which development takes place in a limited time.

Explanation: RAD model – Rapid application development model – works on limited time and in places where requirements are well defined.

19) Which model will be preferred to deploy an advanced version of the existing software in the market?

. Spiral

. Iterative Enhancement

. RAD

. I, II, III

. II, III

. I, III

. All of the above

Show Answer Workspace

Answer: b) II, III

Explanation: NONE

20) What is the Spiral Model?

. A model is divided into smaller parts, and the requirement and functioning of every part is defined before development.

. Model in which software is developed with a series of advanced releases.

. Model in which project is developed using incremental releases.

. Model in which requirements are divided into modules, and each module undergoes a separate cycle.

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Answer: c) Model in which project is developed using incremental releases.

Explanation: Spiral model in which a project is developed using incremental release, and with each new update model becomes more advanced.

21) In which model is there an essential requirement of user involvement?

. RAD

. Waterfall

. Prototyping

. Spiral

. I, III

. I, II, III

. III, IV

. All of the above

Show Answer Workspace

Answer: c) I, III

Explanation:

Prototyping model – user requirement happens when there is only a prototype.

RAD model – user requirement takes place in all 4 stages.

22) What is the V model?

. A model is divided into smaller parts, and the requirement and functioning of every part is defined before development.

. The model started with limited specs and later added new specs at every iteration.

. Verification and validation model.

. Model in which requirements are divided into modules, and each module undergoes a separate cycle.

Show Answer Workspace

Answer: c) verification and validation model.

Explanation: V- model includes 2 sections of verification in which static analysis is done without the code, and the other is validation in which dynamic analysis is done by executing codes.

23) What is RUP?

. Rational Unified Processor

. Relational unified processor

. Rational unit processor

. Rational unified processor

Show Answer Workspace

Answer: a) Rational Unified Processor

Explanation: RUI stands for Rational Unified Processor.

24) What is the Increment model?

. A model is divided into smaller parts, and the requirement and functioning of every part is defined before development.

. The model started with limited specs and later added new specs at every iteration.

. Model in which an earlier version is launched first, and new specifications/versions are released later.

. Model in which requirements are divided into modules, and each module undergoes a separate cycle.

Show Answer Workspace

Answer: d) Model in which requirements are divided into modules, and each module undergoes a separate cycle.

Explanation: An incremental model refers to a model where all the requirements are divided into different modules, and then each module undergoes analysis, design testing, and implementation separately.

25) Steps involved in the Increment model?

Requirement analysis

Design and development

Testing

implementation

. I, III

. I, II, III

. IV

. All of the above

Show Answer Workspace

Answer: d) All of the above

Explanation: The incremental model starts with analyzing the requirements, and later the team designs and develops the software according to the requirement. After the design, the testing comes, and after testing implementation takes place, where the coding is done.

26) What is the Agile model?

. A model is divided into smaller parts, and the requirement and functioning of every part is defined before development.

. The model started with limited specs and later added new specs at every iteration.

. Model in which an earlier version is launched first, and new specifications/versions are released later.

. Model without any specification, only funds, efforts, and time is required.

Show Answer Workspace

Answer: a) Model which is divided into smaller parts, and the requirement and functioning of every part is defined before development.

Explanation: In the Agile model, the task is divided into smaller parts, and the functioning of these smaller parts is pre-defined. This division helps to reduce the risk and also speeds up the process.

27) Steps involved in the Agile model?

Requirement gathering

Designing

Construction / iteration

Testing

Deployment

feedback

. I, III

. I, II, III

. IV

. All of the above

Show Answer Workspace

Answer: d) All of the above

Explanation: The agile model starts with analyzing information and then creating a design using flow diagrams and charts and later implementing the design in codes to make an actual working product. The software is deployed after testing. Once the software is deployed, the last step that remains is collecting reviews.

28) What is the Iterative model?

. A model is divided into smaller parts, and the requirement and functioning of every part is defined before development.

. The model started with limited specs and later added new specs at every iteration.

. Model in which an earlier version is launched first, and new specifications/versions are released later.

. Model without any specification, only funds, efforts, and time is required.

Show Answer Workspace

Answer: c) Model in which an earlier version is launched first, and new specifications/versions are released later.

Explanation: The iterative model is the one in which an earlier version of the software is released first, followed by a new and advanced version with a new iteration.

29) Steps involved in the Iterative model?

Analysis

Design

Implementation

Testing

Development

Review

Maintenance

. I, III

. I, II, III

. IV, V, VI

. All of the above

Show Answer Workspace

Answer: d) All of the above

Explanation: The iterative model starts with analyzing information and then creating a design using flow diagrams and charts and later implementing the design in codes to make an actual working product. The software is deployed after testing. Once the software is deployed, they collect reviews and update accordingly in maintenance.

30) What is the Prototype model?

. A model is divided into smaller parts, and the requirement and functioning of every part is defined before development.

. The model started with limited specs and later added new specs at every iteration.

. Model in which a working prototype is built before the actual model.

. Model without any specification, only funds, efforts, and time is required.

Show Answer Workspace

Answer: c) Model in which a working prototype is built before the actual model.

Explanation:

PROTOTYPE MODEL – model in which a small prototype with limited functioning, low capabilities, low reliability is built as a demo of existing software. This model is used when no detailed information is present regarding input, output, and processing.

31) Steps involved in the Prototype model?

Collecting requirements

Immediate decision

Prototype building

Evaluation

Prototype refinement

Final product

. I, III

. I, II, III

. IV, V, VI

. All of the above

Show Answer Workspace

Answer: d) All of the above

Explanation: The prototype model starts with gathering all the relevant information and requirements, then quickly deciding the structure and then creating a prototype, later after customer evaluation and refining the prototype working on the leading software. The process is suitable when requirements change constantly.

32) What is the Big bang model?

. A model is divided into smaller parts, and the requirement and functioning of every part is defined before development.

. The model started with limited specs and later added new specs at every iteration.

. Model in which a working prototype is built before the actual model.

. Model without any specification, only funds, efforts, and time is required.

Show Answer Workspace

Answer: d) Model without any specification, only funds, efforts, and time is required

Explanation: BIG BANG MODEL – a model without any specification of documentation it requires only necessary funds, time, and efforts from developers to construct the software, and the compiled software may or may not be according to the requirements of the customer because customer requirements are not provided. For example, school projects.

33) What is COCOMO?

. Combined cost estimation model

. Collateral cost estimation model

. Cooperative cost estimation model

. Constructive cost estimation model

Show Answer Workspace

Answer: d) Constructive cost estimation model

Explanation: COCOMO stands for constructive cost estimation model. It is used to predict the efforts and scheduling of projects using the size of software.

34) Define the steps of software project planning?

Size estimation

Cost estimation

Development time

Resource requirement

Project Scheduling

. I, III

. I, II, III

. IV, V

. All of the above

Show Answer Workspace

Answer: d) All of the above

Explanation: Software planning consists of estimating the size of the project, the estimating cost and development time required, later resource requirements will be established based on cost and development time, and lastly, scheduling the project.

35) What is Software Maintenance?

. Software updates.

. Annual software maintenance for the betterment of the product.

. Modifying and updating an old version of the software before delivery.

. Modifying and updating an old version of the software after delivery.

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Answer: d) Modifying and updating an old version of the software after delivery.

Explanation: Software Maintenance stands for modifying and updating the software after delivery to correct errors, remove bugs and improve functionality and changes according to change in society. Also, it's a part of the software development life cycle.

36) Needs of Software Maintenance?

Error correction

Improve efficiency

Change user requirements, hardware, soft wares

optimization

. I, III

. I, II, III, IV

. II, IV

. All of the above

Show Answer Workspace

Answer: d) All of the above

Explanation: Significant software needs maintenance include

Correcting errors, bugs removal, and improving the efficiency of codes.

Changing system hardware, software, and user requirements to make the software fast.

Optimizing to make it fast.

37) Types of Software Maintenance?

Corrective Maintenance

Adaptive Maintenance

Preventive Maintenance

Perfective Maintenance

Predictive Maintenance

Annual Maintenance

. I, III

. I, II, III, IV

. II, IV

. All of the above

Show Answer Workspace

Answer: b) I, II, III, IV

Explanation: The main types of software Maintenance are:

Corrective Maintenance – to correct all the remaining errors in any field.

Adaptive Maintenance – to modify the software according to demands and to change the environment.

Preventive Maintenance – to prevent software from being outdated, to add new features, and re-engineer old methods.

Perfective Maintenance- to increase the efficiency of the software.

38) How to determine a good programming language?

Readability

Portability

Generality

Brevity

Error checking

Cost

Quick

Efficient

Modular

Widely available

. I, II, III

. IV, V, VI, VII

. VIII, IX, X

. All of the above

Show Answer Workspace

Answer: d) All of the above

Explanation: A good programming language must be easily readable and understandable and usually written in a well-documented manner, language must be able to develop portable softwares that can be used with any machine, brevity language should be able to implement algorithms in fewer codes, language should be able to specify bugs at compile time, should be cheap and fast.

39) Which amongst the following is considered the best method to write a program?

a.

```
var a;
var b;
var c;
function SUM(a,b){
c=a+b;
console.log(c);
}
SUM(2,4);
```

b.

```
var a, b, c;
function SUM(a, b) {
c = a + b;
console.log(c);
}
SUM(2, 4);
```

c.

```
var a,b,c;
function SUM(a,b){  c=a+b;  console.log(c);}
SUM(2,4):
```

d. None of the aboveSUM(2,4);

Show Answer Workspace

Answer: b) var a, b, c;

function SUM(a, b) {

c = a + b;

console.log(c);

}

SUM(2, 4);

Explanation: The best way of writing a code is where the code should be well oriented, have equal spacing, error-free, and easy to understand. Each line defined its particular usage

var a, b, c;

function SUM(a, b) {

c = a + b;

console.log(c);

}

SUM(2, 4)

40) What is structured programming?

. Making programs easily understandable by splitting them into small modules.

. Programming in a fixed structure.

. Programming used to create structure.

. None of the above

Show Answer Workspace

Answer: a) Making programs easily understandable by splitting them into small modules.

Explanation: Structured programming is when the primary program is divided into smaller modules to make the program more understandable.

41) What is ISO?

. International standard organization

. Indian standard organization

. International software organization

. None of the above

Show Answer Workspace

Answer: a) International standard organization

Explanation: ISO stands for international standard organization, which is a group of 63 countries established to maintain standards across the globe.

42) What is ISO 9000?

. Certification to establish standardization

. Quality control software

. Software to establish best models

. None of the above

Show Answer Workspace

Answer: a) Certification to establish standardization

Explanation: ISO 9000 certification provided by the international standard organization is 63 countries established to maintain standards. ISO 9000 determines the guidelines and protocols to maintain quality.

43) What is User interface design?

. Method of software design where each separate module stands for a particular function.

. The complete model is considered as a collection of objects.

. Visual part through which the customer interacts.

. None of the above.

Show Answer Workspace

Answer: c) Visual part through which the customer interacts.

Explanation: User interface design is the visual part of a software or operating system. The client can easily navigate and interact with the computer and determine how to display the processed data.

44) Difference between text-based user interfaces and Graphical user interfaces?

. Mainly relies on keyboard (text based interface) / use mouse mostly (GUI)

. Difficult to navigate (text based interface) / Easy to navigate (GUI)

. UNIX (text-based interface) / Windows (GUI)

. All of the above

Show Answer Workspace

Answer: d) All of the above

Explanation: Some of the significant difference between a Text-based interface, also known as a command-line interface, and a Graphic user interface are: -

Text-based interface mainly relies on a keyboard which is very difficult to navigate, but is capable of completing more complex tasks, for example, UNIX.

Graphic user interface uses mouse mostly making it easy to navigate through, don't need much prior knowledge to work with and can easily switch tasks for example: - Windows.

45) What is object-oriented design?

. Method of software design where each separate module stands for a particular function.

. The complete model is considered as a collection of objects.

. Visual part through which the customer interacts.

. None of the above.

Show Answer Workspace

Answer: b) The complete model is considered as a collection of objects

Explanation: In object-oriented design, the software model is considered a collection of objects or entities. Any task handled by a specific object doesn't change the composition of other objects.

46) What is Function oriented design?

. Method of software design where each separate module stands for a particular function.

. The complete model is considered as a collection of objects.

. Visual part through which the customer interacts.

. None of the above.

Show Answer Workspace

Answer: a) Method of software design where each separate module stands for a particular function.

Explanation: Function oriented design stands for a software design where the model is divided into multiple nodes, and each node contains a specific task or function to perform.

47) What is MTTF?

. Meantime to fulfill

. Modern time to fulfill

. Moderate time to failure

. Meantime to failure

Show Answer Workspace

Answer: d) Mean time to failure

Explanation: MTTF stands for mean time to failure. It is a measurement matrix to determine when an assert fails.

48) What measures are considered while calculating the cost of the software?

. Employee cost

. Time and travel cost

. Equipment cost

. All of the above

Show Answer Workspace

Answer: d) All of the above

Explanation: While calculating the actual cost of software, we have to consider the following:

Employee cost, time and travel cost, and equipment cost.

49) State the use of the symbol in the data flow diagram?

. Data flow

. Datastore

. Source of sink

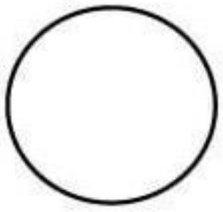
. Process

Show Answer Workspace

Answer: a) Data Flow

Explanation: The curved line is used to connect multiple processes.

50) State the use of the symbol in the data flow diagram?



. Data flow

. Datastore

. Source of sink

. Process

Show Answer Workspace

Answer: d) Process

Explanation: The circle represents the Process which shows the transformation of data from input to output.