

## **SOFTWARE QUALITY & TESTING MCQ BANK**

1. Quality Management in software engineering is also known as

- a) SQA**
- b) SQM
- c) SQI
- d) SQA and SQM

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**

3. Inspections and testing are what kinds of Quality Costs?

- a) Prevention
- b) Internal Failure
- c) External Failure
- d) Appraisal**

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

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

6. Which of the following is not a core step of Six Sigma?

- a) Define
- b) Control**
- c) Measure
- d) Analyse

7. Non-conformance to software requirements is known as

- a) Software availability
- b) Software reliability
- c) Software failure**
- d) None of the mentioned

8. Software safety is equivalent to software reliability.

- a) True
- b) False**

9. Misinterpretation of customer communication is a sample of possible cause defects.

- a) True**
- b) False

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

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

12. Quality of design encompasses requirements and specifications of the system.

**a) True**

b) False

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

14. Which of the following is not a SQA plan for a project?

a) Evaluations to be performed

**b) amount of technical work**

c) audits and reviews to be performed

d) documents to be produced by the SQA group

15. Which of the following is not included in External failure costs?

**a) Testing**

b) help line support

c) warranty work

d) complaint resolution

16. Software quality assurance consists of the auditing and reporting functions of management.

**a) True**

b) False

17. What is not included in prevention costs?

a) quality planning

b) formal technical reviews

c) test equipment

**d) equipment calibration and maintenance**

18. The ISO 9000 series of standards is a program that can be used for external quality assurance purposes.

a) True

**b) False**

*Explanation: The ISO 9000 series of standards is a set of documents.*

19. According to ISO 9001, the causes of nonconforming product should be

- a) deleted
- b) eliminated
- c) identified

**d) eliminated and identified**

*Explanation: ISO 9001 requires that the causes of nonconforming product to be identified.*

*Potential causes of nonconforming product are eliminated.*

20. ISO 9001 is not concerned with \_\_\_\_\_ of quality records.

- a) Collection
- b) maintenance
- c) verification**
- d) dis-positioning

Explanation: The practices defining the quality records to be maintained in the CMM are distributed throughout the key process areas in the various Activities Performed practices.

**This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Software Testing Strategies”.**

1. Software Debugging is a set of activities that can be planned in advance and conducted systematically.

- a) True
- b) False**

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**

3. ITG stands for

- a) instantaneous test group
- b) integration testing group

c) individual testing group

**d) independent test group**

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

Explanation: It answers questions like: “When are we done with testing?”.

5. 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

Explanation: Test cases should uncover errors such as all the explained options and much more.

6. 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

Explanation: Actually, error description does not provide enough information to assist in the location of the cause of the error.

7. What is normally considered as an adjunct to the coding step

a) Integration testing

**b) Unit testing**

c) Completion of Testing

d) Regression Testing

Explanation: After source level code has been developed, reviewed, and verified for correspondence to component level design, unit test case design begins.

8. 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**

Explanation: Regression testing may be conducted manually, by re-executing a subset of all test cases or using automated capture or playback tools

9. 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

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.

10. In which testing level the focus is on customer usage?

- a) Alpha Testing
- b) Beta Testing
- c) Validation Testing
- d) Both Alpha and Beta**

Explanation: Alpha testing is done at developer’s end while beta testing is done at user’s end.

11. Validation refers to the set of tasks that ensure that software correctly implements a specific function.

- a) True
- b) False**

Explanation: Its verification, while validation refers to a different set of tasks that ensure that the software that has been built is traceable to customer requirements.

**This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “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

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

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

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

Explanation: Maintenance Testing is done on the already deployed software. The deployed

software needs to be enhanced, changed or migrated to other hardware. The Testing done during this enhancement, change and migration cycle is known as maintenance testing.

5. White Box techniques are also classified as

- a) Design based testing
- b) Structural testing**
- c) Error guessing technique
- d) None of the mentioned

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

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.

7. Which of the following is/are White box technique?

- a) Statement Testing
- b) Decision Testing
- c) Condition Coverage
- d) All of the mentioned**

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**



Explanation: Unit, system, integration testing all of them are levels in testing.

9. Boundary value analysis belong to?

- a) White Box Testing
- b) Black Box Testing**
- c) White Box & Black Box Testing
- d) None of the mentioned

Explanation: Boundary value analysis is based on testing at the boundaries between partitions and checks the output with expected output.

10. Alpha testing is done at

- a) Developer's end**
- b) User's end
- c) Developer's & User's end
- d) None of the mentioned

Explanation: Alpha testing takes place at the developer's end. Developers observe the users and note problems. Alpha testing is testing of an application when development is about to complete. Minor design changes can still be made as a result of alpha testing.

### **This set of Software Engineering online test focuses on “Software Testing Techniques – 2”.**

1. The testing in which code is checked

- a) Black box testing
- b) White box testing**
- c) Red box testing
- d) Green box testing

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

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**

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

Explanation: Performance testing is in general testing performed to determine how a system performs in terms of responsiveness and stability under a particular workload.

5. Beta testing is done at

- a) User's end**
- b) Developer's end
- c) User's & Developer's end
- d) None of the mentioned

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

Explanation: SPICE stands for Software Process Improvement and Control Determination.

7. Unit testing is done by

a) Users

**b) Developers**

c) Customers

d) None of the mentioned

Explanation: Unit testing is a method by which individual units of source code, sets of one or more computer program modules together with associated control data, usage procedures, and operating procedures are tested to determine if they are fit for use.

8. Behavioral testing is

a) White box testing

b) Black box testing

c) Grey box testing

d) None of the mentioned

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

Answer: b

Explanation: Boundary value analysis is a software testing technique in which tests are designed to include representatives of boundary values.

10. Which of the following is not used in measuring the size of the software

a) KLOC

b) Function Points

c) Size of module

d) None of the mentioned

Answer: c

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

1. Which of the following is NOT a white box technique?

- a) Statement testing
- b) Path testing
- c) State transition testing
- d) Data flow testing

Ans: C

2. Which of these activities provides the biggest potential cost saving from the use of CAST?

- a) Test management
- b) Test execution
- c) Test design
- d) Test planning

Ans: B

3. Which of the following would NOT normally form part of a test plan?

- a) Features to be tested
- b) Risks
- c) Incident reports
- d) Schedule

Ans: C

4. What is the main difference between a walkthrough and an inspection?

- a) A walkthrough is lead by the author, whilst an inspection is lead by a trained moderator.
- b) An inspection has a trained leader, whilst a walkthrough has no leader.

- c) Authors are not present during inspections, whilst they are during walkthroughs.
- d) An inspection is lead by the author, whilst a walkthrough is lead by a trained moderator.

Ans: A

5. Which of the following is NOT true of test coverage criteria?

- a) A measure of test coverage criteria is the percentage of user requirements covered.
- b) Test coverage criteria can be measured in terms of items exercised by a test suite.
- c) A measure of test coverage criteria is the percentage of faults found.
- d) Test coverage criteria are often used when specifying test completion criteria.

Ans: C

6. Which one of the following statements about system testing is NOT true?

- a) System tests are often performed by independent teams.
- b) Functional testing is used more than structural testing.
- c) Faults found during system tests can be very expensive to fix.
- d) End-users should be involved in system tests.

Ans: D

7. Which of the following characterizes the cost of faults?

- a) They are easiest to find during system testing but the most expensive to fix then.
- b) They are cheapest to find in the early development phases and the most expensive to fix in the latest test phases.
- c) Faults are cheapest to find in the early development phases but the most expensive to fix then.
- d) Although faults are most expensive to find during early development phases, they are cheapest to fix then.

Ans: B

8. Integration testing in the small:

- a) Tests the individual components that have been developed.
- b) Only uses components that form part of the live system.
- c) Tests interactions between modules or subsystems.
- d) Tests interfaces to other systems.

Ans: C

9. Alpha testing is:

- a) Post-release testing by end user representatives at the developer's site.
- b) The first testing that is performed.
- c) Pre-release testing by end user representatives at their sites.
- d) Pre-release testing by end user representatives at the developer's site.

Ans: D

10. An incident logging system

- a) Is a valuable source of project information during testing if it contains all incidents
- b) Is of limited value
- c) Only records defects
- d) Should be used only by the test team.

Ans: A

11. Increasing the quality of the software, by better development methods, will affect the time needed for testing (the test phases) by:

- a) Reducing test time
- b) Increasing test time
- c) No change
- d) Can't say

Ans: A

## 12. Coverage measurement

- a) Can only be applied at unit or module testing, not at system testing
- b) Is a partial measure of test thoroughness
- c) Branch coverage should be mandatory for all software
- d) Is nothing to do with testing

**Ans: B**

## 13. What is the important criterion in deciding what testing technique to use?

- a) How well you know a particular technique
- b) How appropriate the technique is for testing the application
- c) The objective of the test
- d) Whether there is a tool to support the technique

**Ans: C**

## 14. A program with high cyclometric complexity is almost likely to be:

- a) Difficult to test
- b) Small
- c) Difficult to write
- d) Large

**Ans: A**

## 15. Given the following sets of test management terms (v-z), and activity descriptions (1-5), which one of the following best pairs the two sets?

- v – Test control
- w – Test monitoring
- x – Test estimation
- y – Incident management
- z – Configuration control

1 – Calculation of required test resources

2 – Maintenance of record of test results

- 3 – Re-allocation of resources when tests overrun
- 4 – Report on deviation from test plan
- 5 – Tracking of anomalous test results

- a) v-3,w-2,x-1,y-5,z-4
- b) v-2,w-5,x-1,y-4,z-3
- c) v-3,w-4,x-1,y-5,z-2
- d) v-2,w-1,x-4,y-3,z-5

Ans: C

16. The oracle assumption:

- a) Is that there is some existing system against which test output may be checked.
- b) Is that the tests are reviewed by experienced testers.
- c) Is that the tester knows everything about the software under test.
- d) Is that the tester can routinely identify the correct outcome of a test.

Ans: D

17. Static analysis is best described as:

- a) The analysis of batch programs.
- b) The reviewing of test plans.
- c) The use of black box testing.
- d) The analysis of program code.

Ans: D

18. A failure is:

- a) Found in the software; the result of an error.
- b) A human action that produces an incorrect result.
- c) An incorrect step, process or data definition in a computer program.
- d) Departure from specified behavior.

Ans: D



19. The most important thing about early test design is that it:

- a) Means inspections are not required.
- b) Makes test preparation easier.
- c) Can prevent fault multiplication.
- d) Will find all faults.

Ans: C

20. Which of the following statements about reviews is true?

- a) Reviews are the least effective way of testing code.
- b) Reviews cannot be performed on user requirements specifications.
- c) Reviews are unlikely to find faults in test plans.
- d) Reviews should be performed on specifications, code, and test plans.

Ans: D

This set of Software Engineering Multiple Choice Questions & Answers (MCQs) focuses on “Web Testing”.

1. Which web app attribute is defined by the statement:”A large number of users may access the WebApp at one time”?

- a) Unpredictable load
- b) Performance
- c) Concurrency
- d) Network intensiveness

Answer: c

2. Which web app attribute is defined by the statement:”The quality and aesthetic nature of content remains an important determinant of the quality of a WebApp”?

- a) Availability
- b) Data driven
- c) Content sensitive

d) Continuous evolution

Answer: c

3. If the user queries a collection of large databases and extracts information from the webapp, the webapp is categorized under

- a) Service oriented app
- b) Database access app
- c) Portal app
- d) Data warehousing app

Answer: d

Explanation: The Data Warehouse is a stable, read-only database that combines information from separate systems into one, easy-to-access location.

4. Which process model should be used in virtually all situations of web engineering?

- a) Incremental Model
- b) Waterfall Model
- c) Spiral Model
- d) None of the mentioned

Answer: a

Explanation: The web engineering process must accommodate incremental delivery, frequent changes and short timeline.

5. Which analysis is a part of Analysis model of the web engineering process framework?

- a) Content Analysis
- b) Interaction Analysis
- c) Functional Analysis
- d) All of the mentioned

Answer: d

Explanation: Analysis model establishes a basis for design which requires all the mentioned options.

6. Web development and software development are one and the same thing.

- a) True

b) False

Answer: b

Explanation: They are different due to the nature and distinct requirements of Web-based systems.

7. Web-based systems are often document-oriented containing static or dynamic content.

a) True

b) False

Answer: a

Explanation: In web-based systems, more emphasis is on “look and feel” of the product.

8. Web-based systems apply the same levels of formal planning and testing used in software development.

a) True

b) False

Answer: b

Explanation: Web-based systems are typically constrained to a short development time making it difficult to apply the same levels of formal planning and testing used in software development.

9. Which of the following statements are incorrect with reference to web-based systems? Web-based systems

a) should be unscalable

b) must be able to cope with uncertain, random heavy demands on services

c) must be secure

d) are subject to assorted legal, social, and ethical scrutiny

Answer: a

Explanation: Web-based systems should be scalable.

10. What category of web-based system would you assign to electronic shopping?

a) Informational

b) Interactive

c) Transaction-oriented

d) Workflow-oriented

Answer: c

Explanation: It involves usage of transaction management of database systems.

11. What category of web-based system would you assign to discussion groups?

- a) Collaborative work
- b) Online communities
- c) Web portals
- d) Workflow-oriented

Answer: b

Explanation: None.

12. W3C stands for

- a) World Wide Web Consortium
- b) World Wide Web Collaboration
- c) World Wide Web Community
- d) None of the mentioned

Answer: a

Explanation: W3C is an international consortium where member organizations, a full-time staff, and the public work together to develop web standards.

13. Which of the following is a risk associated with using hypertext in web applications?

- a) Loss of sense of locality and direction
- b) Cognitive overload for users
- c) All of the mentioned
- d) None of the mentioned

Answer: c

Explanation: Hypertexts and links may divert the users attention from the main content.

## Previous Question Paper Questions

----- are the testers of the unit testing

- a) Developer
- b) Business Analysts
- c) Independent testers
- d) Customers

Answer: a

----- is not a test type

- a) Database testing
- b) Security testing
- c) Functional testing
- d) Statement Testing

Answer: d

Which test document describes the exit criteria of testing-----

- a) Test case
- b) Test plan
- c) Test summary report
- d) Defect report

Answer: c

What is integration testing?

- a) SDLC method
- b) Test type
- c) Test design technique
- d) Test level

Answer: b

which of the following is not a SQA plan for a project?

- a) Evaluations to be performed
- b) Amount of technical work
- c) Audits and reviews to be performed
- d) Documents to be produced by the SQA group

Answer: b

which of the following is a software process certification

- a) Java Certified
- b) IBM Certified
- c) ISO-9001
- d) Microsoft Certified

Answer: c

Software mistakes during coding are known as\_\_\_\_\_

- a) Errors
- b) failures
- c) bugs
- d) defects

Answer:

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

Answer:

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

Answer:

17. The primary objective of formal technical reviews is to find \_\_\_\_\_ during the process so that they do not become defects after release of the software.

- a) Errors
- b) equivalent faults
- c) failure cause
- d) none of the mentioned

Answer:

**IEEE stands for Institute of Electrical and Electronics Engineers.**

Best of Luck.....