**19-01-2022 – Started date**

<https://www.guru99.com/software-testing-interview-questions.html> ----> Interview questions on functional testing completed by 31st of January(Guru99)

### 1.What is Exploratory Testing?

### it is to explore the application by performing some testcase execution with less amount of planning(1 to 2hrs)

### We can also perform boundary value analysis.

### Exploratory testing itself says exploring the application and finding the testcases.

### 2. What is “use case testing”?

### In order to identify and execute the functional requirement of an application from start to finish “use case” is used and the techniques used to do this is known as “Use Case Testing.”

### 3. What is the difference between the STLC (Software Testing Life Cycle) and SDLC (Software Development Life Cycle)?(Need to explore)

### SDLC deals with development/coding of the software while STLC deales with validation and verification of the software

### 4. What is traceability matrix?(Explore)

### The relationship between test cases and requirements is shown with the help of a document. This document is known as a traceability matrix.

### Requirement mapped with the Test case

### 5. What is Equivalence partitioning testing? (Need to explore)

### Equivalence partitioning testing is a software testing technique which divides the application input test data into each partition at least once of equivalent data from which test cases can be derived. By this testing method, it reduces the time required for software testing.

### 6. What is white box testing and list the types of white box testing?

### It is also called as code-based testing or structural testing.

### White box testing is mainly done by developers.

### Unit testing is a kind of white box testing

### 7. In white box testing, what do you verify?

* Verify the line by line coding and cover 100% testing
* Verify the expected outputs
* Verify the security holes in the code

### 8. What is black box testing? What are the different black box testing techniques?

Black box testing is the software testing method which is used to test the software without knowing the internal structure of code or program. This testing is usually done to check the functionality of an application. The different black box testing techniques are

* Equivalence Partitioning
* Boundary value analysis
* Cause-effect graphing(Explore)

### 9. What is the difference between static and dynamic testing?

* Static testing: During Static testing method, the code is not executed, and it is performed using the software documentation.
* Dynamic testing: To perform this testing the code is required to be in an executable form.

### 10. What are verification and validation?

* Verification is a process of evaluating software at the development phase. It helps you to decide whether the product of a given application satisfies the specified requirements. Validation is the process of evaluating software at the after the development process and to check whether it meets the customer requirements.

### 11. What are the different test levels?

There are four test levels

1. Unit/component/program/module testing
2. Integration testing(Explore)
3. System testing
4. Acceptance testing

**CODE:-** UISA

### 12. What is Integration testing?

Integration testing <https://www.guru99.com/integration-testing.html>is a level of software testing process, where individual units of an application are combined and tested. It is usually performed after unit and functional testing.

### 13. What Test Plans consists of?(Explore)

Test design, scope, test strategies, approach are various details that Test plan document consists of.

1. Test case identifier
2. Scope
3. Features to be tested
4. Features not to be tested
5. Test strategy & Test approach
6. Test deliverables
7. Responsibilities
8. Staffing and training
9. Risk and Contingencies

### 14. What is the difference between UAT (User Acceptance Testing) and System testing?

**System Testing**: System testing is finding defects when the system undergoes testing as a whole; it is also known as end-to-end testing. In such type of testing, the application suffers from beginning till the end.

**UAT:** User Acceptance Testing (UAT) involves running a product through a series of specific tests which determines whether the product will meet the needs of its users.

* Beta testing is done just prior to the final release.

### 15. Mention the difference between Data Driven Testing and Retesting?

**Retesting:** It is a process of checking bugs that are actioned by the development team to verify that they are fixed.

**Data Driven Testing (DDT):**In data driven testing process, the application is tested with multiple test data. The application is tested with a different set of values.

### 16. What are the valuable steps to resolve issues while testing?

* Record: Log and handle any problems which have happened
* Report: Report the issues to higher level manager
* Control: Define the issue management process

**CODE:-** RRC

### 17. What is the difference between test scenarios, test cases, and test script?

Difference between test scenarios and test cases is that

**Test Scenarios:** A Test Scenario is any functionality that can be tested. It is also called Test Condition or Test Possibility.

**Test Cases:** It is a document that contains the steps that have to be executed; it has been planned earlier.

**Test Script:**It is written in a programming language and it’s a short program used to test part of the functionality of the software system. In other words a written set of steps that should be performed manually.

### 18. What is Latent defect?

**Latent defect:**This defect is an existing defect in the system which does not cause any failure as the exact set of conditions has never been met

### 19. What are the two parameters which can be useful to know the quality of test execution?

To know the quality of test execution, we can use two parameters

* Defect reject ratio
* Defect leakage ratio

### Defect rejection ratio: (No. of defects rejected/ total no. of defects raised) X 100

### Defect leakage ratio: (No. of defect missed/total defects of software) X 100.

### Day – 2(20/01/22)

### 21. Explain what Test Deliverables is?

Test Deliverables are a set of documents, tools and other components that have to be developed and maintained in support of testing.

There are different test deliverables at every phase of the software development lifecycle

* Before Testing
* During Testing
* After the Testing

### 22. What is mutation testing?

Mutation testing is a technique to identify if a set of test data or test case is useful by intentionally introducing various code changes (bugs) and retesting with original test data/ cases to determine if the bugs are detected.

### 25. What are the categories of debugging?(Out of Scope)

Categories for debugging

1. Brute force debugging
2. Backtracking
3. Cause elimination
4. Program Slicing
5. Fault tree analysis

### 26. What is fault masking explain with example? (Out of Scope)

When the presence of one defect hides the presence of another defect in the system, it is known as fault masking.

Example: If the “Negative Value” cause a firing of unhandled system exception, the developer will prevent the negative values input. This will resolve the issue and hide the defect of unhandled exception firing.

### 27. Explain what Test Plan is? What is the information that should be covered in Test Plan?

A test plan can be defined as a document describing the scope, approach, resources, and schedule of testing activities and a test plan should cover the following details.

* Test Strategy
* Test Objective
* Exit/Suspension Criteria
* Resource Planning
* Test Deliverables

**CODE:-** SARS

32. Explain what is testing type and what are the commonly used testing type?

To get an expected test outcome, a standard procedure is followed which is referred to as Testing Type.

Commonly used testing types are

* Unit Testing: Test the smallest code of an application
* API Testing: Testing API created for the application
* Integration Testing: Individual software modules are combined and tested
* System Testing: Complete testing of the system
* Install/UnInstall Testing: Testing done from the point of client/customer view
* Agile Testing: Testing through Agile technique

CODE:- UAISA

### 35. What does a typical test report contain? What are the benefits of test reports?

A test report contains the following things:

* Project Information
* Test Objective
* Test Summary
* Defect

CODE:- PTTD

The benefits of test reports are:

* Current status of project and quality of product are informed
* If required, stakeholder and customer can take corrective action
* A final document helps to decide whether the product is ready for release

### 38. When is RTM (Requirement Traceability Matrix) prepared?

RTM is prepared before test case designing. Requirements should be traceable from review activities.

### 39. What is the difference between Test matrix and Traceability matrix?(Out of Scope)

**Test Matrix**: Test matrix is used to capture actual quality, effort, the plan, resources and time required to capture all phases of software testing

**Traceability Matrix**: Mapping between test cases and customer requirements is known as Traceability Matrix

### 40. In manual testing what are stubs and drivers?

Both stubs and drivers are part of incremental testing. In incremental testing, there are two approaches namely bottom-up and top-down approach. Drivers are used in bottom-up testing and stub is used for a top-down approach. In order to test the main module, the stub is used, which is a dummy code or program.

### 41. What is the step you would follow once you find the defect?

Once a defect is found you would follow the step

a) Recreate the defect

b) Attach the screenshot

c) Log the defect

### 42. Explain what is “Test Plan Driven” or “Key Word Driven” method of testing?

This technique uses the actual test case document developed by testers using a spreadsheet containing special “key Words”. The key words control the processing.

### 45. Explain what N+1 testing is?

The variation of regression testing is represented as N+1. In this technique, the testing is performed in multiple cycles in which errors found in test cycle ‘N’ are resolved and re-tested in test cycle N+1. The cycle is repeated unless there are no errors found.

### 52. Mention what the difference between a “defect” and a “failure” in software testing is?

In simple terms when a defect reaches the end customer, it is called a failure while the defect is identified internally and resolved; then it is referred to as a defect.

### 54. Explain which test cases are written first black boxes or white boxes?

Black box test cases are written first as to write black box test cases; it requires project plan and requirement document all these documents are easily available at the beginning of the project. While writing white box test cases requires more architectural understanding and is not available at the start of the project.

### 55. Explain what the difference between latent and masked defects is?

* **Latent defect:** A latent defect is an existing defect that has not caused a failure because the sets of conditions were never met
* **Masked defect:** It is an existing defect that has not caused a failure because another defect has prevented that part of the code from being executed

### 56. Mention what bottom-up testing is?

Bottom-up testing is an approach to integration testing, where the lowest level components are tested first, then used to facilitate the testing of higher level components. The process is repeated until the component at the top of the hierarchy is tested.

### 58. Mention what the meaning of breath testing is?

Breath testing is a test suite that exercises the full functionality of a product but does not test features in detail

**60. Mention what the basic components of defect report format are?**

The essential components of defect report format include

* Project Name
* Module Name
* Defect detected on
* Defect detected by
* Defect ID and Name
* Snapshot of the defect
* Priority and Severity status
* Defect resolved by
* Defect resolved on

### 61. Mention what the purpose behind doing end-to-end testing is?

End-to-end testing is done after functional testing. The purpose behind doing end-to-end testing is that

* To validate the [software requirements](https://www.guru99.com/learn-software-requirements-analysis-with-case-study.html) and integration with external interfaces
* Testing application in real-world environment scenario
* Testing of interaction between application and database

**Day -3** (21/01/2022)

**63. Explain in a testing project what testing activities would you automate?** (Out of Scope)

In testing project testing activities, you would automate are

* Tests that need to be run for every build of the application
* Tests that use multiple data for the same set of actions
* Identical tests that need to be executed using different browsers
* Mission critical pages
* A transaction with pages that do not change in a short time

### 64. What is the MAIN benefit of designing tests early in the life cycle?

It helps prevent defects from being introduced into the code.

### 66. What is the KEY difference between preventative and reactive approaches to testing?

Preventative tests are designed early; reactive tests are designed after the software has been produced.

### 67. What is the purpose of exit criteria?

The purpose of exit criteria is to define when a test level is completed.

### 71. What is the MAIN objective when reviewing a software deliverable?

To identify defects in any software work product.

### 72. Which of the following defines the expected results of a test? Test case specification or test design specification.

Test case specification defines the expected results of a test.

### 74. As part of which test process do you determine the exit criteria?

The exit criteria are determined on the bases of ‘Test Planning’.

### 75. What is Alpha testing?

Pre-release testing by end user representatives at the developer’s site.

### 76. What is beta testing?

Testing performed by potential customers at their own locations.

### 77. Mention what the difference between Pilot and Beta testing is?

The difference between a pilot and beta testing is that pilot testing is actually done using the product by the group of users before the final deployment, and in beta testing, we do not input real data, but it is installed at the end customer to validate if the product can be used in production.

### 80. What is the difference between Testing Techniques and Testing Tools?

Testing technique: – Is a process for ensuring that some aspects of the application system or unit functions properly there may be few techniques but many tools.

Testing Tools: – Is a vehicle for performing a test process. The tool is a resource to the tester, but itself is insufficient to conduct testing

### 81. We use the output of the requirement analysis, the requirement specification as the input for writing …

User Acceptance Test Cases

### 82. Repeated Testing of an already tested program, after modification, to discover any defects introduced or uncovered as a result of the changes in the software being tested or in another related or unrelated software component:

Regression Testing

### 83. A wholesaler sells printer cartridges. The minimum order quantity is 5. There is a 20% discount for orders of 100 or more printer cartridges. You have been asked to prepare test cases using various values for the number of printer cartridges ordered. Which of the following groups contain three test inputs that would be generated using Boundary Value Analysis?

4, 5, 99

### 84. What is component testing?

Component testing, also known as unit, module, and program testing, searches for defects in and verifies the functioning of software (e.g., modules, programs, objects, classes, etc.) that are separately testable. Component testing may be done in isolation from the rest of the system depending on the context of the development life cycle and the system. Most often stubs and drivers are used to replace the missing software and simulate the interface between the software components simply. A stub is called from the software component to be tested; a driver calls a component to be tested.

### 85. What is functional system testing?

Testing the end to end functionality of the system as a whole is defined as a functional system testing.

### 86. What are the benefits of Independent Testing?

Independent testers are unbiased and identify different defects at the same time.

### 87. In a REACTIVE approach to testing when would you expect the bulk of the test design work to be begun?

The bulk of the test design work begun after the software or system has been produced.

**88. What are the different Methodologies in Agile Development Model?(Agile Concept)**

There are currently seven different agile methodologies that I am aware of:

1. Extreme Programming (XP)
2. Scrum
3. Lean Software Development
4. Feature-Driven Development
5. Agile Unified Process
6. Crystal
7. Dynamic Systems Development Model (DSDM)

### 89. Which activity in the fundamental test process includes evaluation of the testability of the requirements and system?

A ‘Test Analysis’ and ‘Design’ includes evaluation of the testability of the requirements and system.

### 91. What is random/monkey testing? When is it used?

Random testing is often known as monkey testing. In such type of testing data is generated randomly often using a tool or automated mechanism. With this randomly generated input, the system is tested, and results are analyzed accordingly. These testing are less reliable; hence it is normally used by the beginners and to see whether the system will hold up under adverse effects.

**Day -4** (24/01/2022)

**93. Consider the following techniques. Which are static and which are dynamic techniques?**

1. Equivalence Partitioning.
2. Use Case Testing.
3. Data Flow Analysis.
4. Exploratory Testing.
5. Decision Testing.
6. Inspections.

Data Flow Analysis and Inspections are static; Equivalence Partitioning, Use Case Testing, Exploratory Testing and Decision Testing are dynamic.

### 97. What is an equivalence partition (also known as an equivalence class)?

An input or output ranges of values such that only one value in the range becomes a test case.

### 98. When should configuration management procedures be implemented?

During test planning.

### 99. A Type of Functional Testing, which investigates the functions relating to the detection of threats, such as virus from malicious outsiders?

Security Testing

### 100. Testing wherein we subject the target of the test, to varying workloads to measure and evaluate the performance behaviors and the ability of the target and the test to continue to function properly under these different workloads?

Load Testing

### 101. Testing activity which is performed to expose defects in the interfaces and in the interaction between integrated components is?

Integration Level Testing

### 102. What are the Structure-based (white-box) testing techniques?

Structure-based testing techniques (which are also dynamic rather than static) use the internal structure of the software to derive test cases. They are commonly called ‘white-box’ or ‘glass-box’ techniques (implying you can see into the system) since they require knowledge of how the software is implemented, that is, how it works. For example, a structural technique may be concerned with exercising loops in the software. Different test cases may be derived to exercise the loop once, twice, and many times. This may be done regardless of the functionality of the software.

### 103. When should “Regression Testing” be performed?

After the software has changed or when the environment has changed [Regression testing](https://www.guru99.com/regression-testing.html) should be performed.

### 104. What is negative and positive testing?

A negative test is when you put in an invalid input and receives errors. While positive testing is when you put in a valid input and expect some action to be completed in accordance with the specification.

### 107. What is the difference between re-testing and regression testing?

Re-testing ensures the original fault has been removed; regression testing looks for unexpected side effects.

### 108. What are the Experience-based testing techniques?

In experience-based techniques, people’s knowledge, skills, and background are a prime contributor to the test conditions and test cases. The experience of both technical and business people is important, as they bring different perspectives to the test analysis and design process. Due to previous experience with similar systems, they may have insights into what could go wrong, which is very useful for testing.

### 110. Could reviews or inspections be considered part of testing?

Yes, because both help detects faults and improves quality.

### 111. An input field takes the year of birth between 1900 and 2004 what the boundary values for testing this field are?

1899,1900,2004,2005

### 113. To test a function, what has to write a programmer, which calls the function to be tested and pass test data.(Automation)

Driver

### 114. What is the one Key reason why developers have difficulty testing their own work?

Lack of Objectivity

### 115. “How much testing is enough?”

The answer depends on the risk for your industry, contract and special requirements.

**116. When should testing be stopped?**

It depends on the risks for the system being tested. There are some criteria based on which you can stop testing.

1. Deadlines (Testing, Release)
2. Test budget has been depleted
3. Bug rate fall below a certain level
4. Test cases completed with certain percentage passed
5. Alpha or beta periods for testing ends
6. Coverage of code, functionality or requirements are met to a specified point

### 117. Which of the following is the primary purpose of the integration strategy for integration testing in the small?

The primary purpose of the integration strategy is to specify which modules to combine when and how many at once.

### 124. A number of critical bugs are fixed in software. All the bugs are in one module, related to reports. The test manager decides to do regression testing only on the reports module.

Regression testing should be done on other modules as well because fixing one module may affect other modules.

### 125. Why does the boundary value analysis provide good test cases?

Because errors are frequently made during programming of the different cases near the ‘edges’ of the range of values.

**Day -5**(21/02/2022)

### 127. Why can be tester dependent on configuration management?

Because configuration management assures that we know the exact version of the testware and the test object.

### 128. What is V-Model?

A software development model that illustrates how testing activities integrate with software development phases

### 129. What is maintenance testing?

Triggered by modifications, migration or retirement of existing software

### 130. What is test coverage?

Test coverage measures in some specific way the amount of testing performed by a set of tests (derived in some other way, e.g., using specification-based techniques). Wherever we can count things and can tell whether or not each of those things has been tested by some test, then we can measure coverage.

### 134. The purpose of the requirement phase is

To freeze requirements, to understand user needs, to define the scope of testing

**135. Why we split testing into distinct stages?**

We split testing into distinct stages because of the following reasons,

1. Each test stage has a different purpose
2. It is easier to manage to test in stages
3. We can run different test into different environments
4. Performance and quality of the testing is improved using phased testing

### 137. Which of the following is likely to benefit most from the use of test tools providing test capture and replay facilities? a) Regression testing b) Integration testing c) System testing d) User acceptance testing

Regression testing

### 140. What is failure?

Failure is a departure from specified behavior.

### 144. What is the purpose of test design technique?

Identifying test conditions and Identifying test cases

### 145. When testing a grade calculation system, a tester determines that all scores from 90 to 100 will yield a grade of A, but scores below 90 will not. This analysis is known as:

Equivalence partitioning

### 147. During the testing of a module tester, ‘X’ found a bug and assigned it to a developer. But developer rejects the same, saying that it’s not a bug. What ‘X’ should do?

Send the detailed information of the bug encountered and check the reproducibility

### 149. In practice, which Life Cycle model may have more, fewer or different levels of development and testing, depending on the project and the software product. For example, there may be component integration testing after component testing, and system integration testing after system testing.

V-Model

### 152. In which order should tests be run?

The most important one must be tested first

### 153. The later in the development life cycle a fault is discovered, the more expensive it is to fix. Why?

The fault has been built into more documentation, code, tests, etc

### 154. What is Coverage measurement?

It is a partial measure of test thoroughness.

### 155. What is Boundary value testing?

Test boundary conditions on, below and above the edges of input and output equivalence classes. For instance, let say a bank application where you can withdraw maximum Rs.20,000 and a minimum of Rs.100, so in boundary value testing we test only the exact boundaries, rather than hitting in the middle. That means we test above the maximum limit and below the minimum limit.

### 157. The purpose of which is to allow specific tests to be carried out on a system or network that resembles as closely as possible the environment where the item under test will be used upon release?

Test Environment