What are the advantages of waterfall model?

The advantages of the waterfall model are:

- Simple to implement and required fewer amounts of resources.
- After every phase output is generate.
- Help in methods of analysis, design, coding, testing and maintenance.
- Preferred in projects where quality is more important than schedule and cost.
- Systematic and sequential model.
- Proper documentation of the project.

What is exploratory testing?

Exploratory testing: means testing an application without a test plan and test script. In exploring testing test explore the application on the basis on his knowledge. The tester has no knowledge about the application previously. He explores the application like an end user and try to use it. While using the application his main motive is to find the bugs which are in the application.

What is compatibility testing?

Compatibility testing is a type of testing used to find out the compatibility between the application and platform on which application works, web browsers, hardware, operating systems etc. Good software must be compatible with different hardware, web browser and database.

What is SRS and BRS document?

Software Requirements Specification (SRS) is documented form of the requirement of the customer. It consists of all requirement of the customer regarding that software to be developed. The SRS document work as agreement between the company and the customer consisting of all functional and non functional requirements.

Business Requirement Specification (BRS) are the requirements as described by the business people. The

business tells “what” they want for the application to do. In simple word BRS contain the functional requirement of the application.

Can you explain V model in manual testing?

V model: it is enhanced version of waterfall model where each level of the development lifecycle is verified before moving to next level. In this testing starts at the very beginning. By testing we mean verification by means of reviews and inspections, static testing. Each level of the development life - cycle has a corresponding test plan. A test plan is developed to prepare for the testing of the products of that phase. Be developing the test plans, we can also define the expected results for testing of the products for that level as well as defining the entry and exit criteria for each level.

The advantages of this type of testing include:

- Developer and tester are independent of each other.
- The tester does not need knowledge of any programming languages.
- The test is done from the point-of-view of the user.
- Test cases can be designed when specifications are complete.
- Testing helps to identify issues related to functional specifications.

A Form has four mandatory fields to be entered before you Submit. How many numbers of test cases are required to verify this? And what are they?

Five test cases are required to test:

1. Enter the data in all the mandatory fields and submit, should not display error message.
2. Enter data in any two mandatory fields and summit, should issue an error message.
3. Do not enter in any of the fields should issue an error message.
4. If the fields accept only number, enter numbers in the fields and submit, should not issue an error message, try to enter only in two fields should issue an error message, and enter alphabets in two fields and number in other two fields it should issue an error message.
5. If the fields do not accept special characters, then enter the characters and submit it.

Explain bug life cycle.

Bug Life Cycle:

- When a tester finds a bug .The bug is assigned with NEW or OPEN status,

- The bug is assigned to development project manager who will analyze the bug .He will check whether it is a valid defect. If not valid bug is rejected then status is REJECTED.

- If not, next the defect is checked whether it is in scope. When bug is not part of the current release .Such defects are POSTPONED

- Now, Tester checks whether a similar defect was raised earlier. If yes defect is assigned a status DUPLICATE

- When bug is assigned to developer. During this stage bug is assigned a status IN-PROGRESS

- Once code is fixed. Defect is assigned a status FIXED

- Next the tester will re-test the code. In case the test case passes the defect is CLOSED

- If the test case fails again the bug is RE-OPENED and assigned to the developer. That’s all to Bug Life Cycle.

What is test driver and test stub?

- The Stub is called from the software component to be tested. It is used in top down approach.
- The driver calls a component to be tested. It is used in bottom up approach.
- Both test stub and test driver are dummy software components.

What is difference between Retesting and Regression testing?

The differences between Retesting and Regression testing are below:

- Retesting is done to verify defect fix previous in now working correctly where as regression is perform to check if the defect fix have not impacted other functionality that was working fine before doing changes in the code.

- Retesting is specific and is performed on the bug which is fixed where as in regression is not be always specific to any defect fix it is performed when any bug is fixed.

- Retesting concern with executing those test cases that are failed earlier where as regression concern with executing test cases that was passed in earlier builds.

- Retesting has higher priority over regression.

What is verification and validation?

Verification: process of evaluating work-products of a development phase to determine whether they meet the specified requirements for that phase.

Validation: process of evaluating software during or at the end of the development process to determine whether it specified requirements.

Difference between Verification and Validation:

- Verification is Static Testing where as Validations is Dynamic Testing.
- Verification takes place before validation.
- Verification evaluates plans, document, requirements and specification, where as Validation evaluates product.
- Verification inputs are checklist, issues list, walkthroughs and inspection ,where as in Validation testing of actual product.
- Verification output is set of document, plans, specification and requirement documents where as in Validation actual product is output.

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."

What is the difference between the STLC (Software Testing Life Cycle) and SDLC (Software Development Life Cycle)?

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

What is traceability matrix?

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

What is Equivalence partitioning testing?

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.

What is white box testing and list the types of white box testing?

White box testing technique involves selection of test cases based on an analysis of the internal structure (Code coverage, branches coverage, paths coverage, condition coverage, etc.) of a component or system. It is also known as Code-Based testing or Structural testing. Different types of white box testing are

1. Statement Coverage
2. Decision Coverage

In white box testing, what do you verify?

In white box testing following steps are verified.

1. Verify the security holes in the code
2. Verify the incomplete or broken paths in the code
3. Verify the flow of structure according to the document specification
4. Verify the expected outputs
5. Verify all conditional loops in the code to check the complete functionality of the application
6. Verify the line by line coding and cover 100% testing

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

1. Equivalence Partitioning
2. Boundary value analysis
3. Cause-effect graphing

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

What are the different test levels?

There are four test levels

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

What is Integration testing?

Integration testing 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.

What Test Plans consists of?

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

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.

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.

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

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
-

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

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 and integration with external interfaces
- Testing application in real-world environment scenario
- Testing of interaction between application and database

62. Explain what it means by test harness?

A test harness is configuring a set of tools and test data to test an application in various conditions, and it involves monitoring the output with expected output for correctness.

63. Explain in a testing project what testing activities would you automate?

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.

67. What is the purpose of exit criteria?

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

69. When is used Decision table testing?

Decision table testing is used for testing systems for which the specification takes the form of rules or cause-effect combinations. In a decision table, the inputs are listed in a column, with the outputs in the same column but below the inputs. The remainder of the table explores combinations of inputs to define the outputs produced.

70. Why we use decision tables?

The techniques of equivalence partitioning and boundary value analysis are often applied to specific situations or inputs. However, if different combinations of inputs result in different actions being taken, this can be more difficult to show using equivalence partitioning and boundary value analysis, which tend to be more focused on the user interface. The other two specification-based techniques, decision tables, and state transition testing are more focused on business logic or business rules. A decision table is a good way to deal with combinations of things (e.g., inputs). This technique is sometimes also referred to as a 'cause-effect' table. The reason for this is that there is an associated logic diagramming technique called 'cause-effect graphing' which was sometimes used to help derive the decision table

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.

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.

88. What are the different Methodologies in Agile Development Model?

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.

90. What is typically the MOST important reason to use risk to drive testing efforts?

Because testing everything is not feasible.

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.

92. Which of the following are valid objectives for incident reports?

1. Provide developers and other parties with feedback about the problem to enable identification, isolation, and correction as necessary.
2. Provide ideas for test process improvement.
3. Provide a vehicle for assessing tester competence.
4. Provide testers with a means of tracking the quality of the system under test.

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.

94. Why are static testing and dynamic testing described as complementary?

Because they share the aim of identifying defects but differ in the types of defect they find.

95. What are the phases of a formal review?

In contrast to informal reviews, formal reviews follow a formal process. A typical formal review process consists of six main steps:

1. Planning
2. Kick-off

3. Preparation
4. Review meeting
5. Rework
6. Follow-up.

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 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.

105. What is the purpose of a test completion criterion?

The purpose of test completion criterion is to determine when to stop testing

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.

109. What type of review requires formal entry and exit criteria, including metrics?

Inspection

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.

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

119. Given the following code, which statement is true about the minimum number of test cases required for full statement and branch coverage?

Read p

Read q

IF p+q> 100

THEN Print "Large"

ENDIF

IF p > 50

THEN Print "p Large"

ENDIF

1 test for statement coverage, 2 for branch coverage

120. Which review is normally used to evaluate a product to determine its suitability for the intended use and to identify discrepancies?

Technical Review.

121. Faults found should be originally documented by whom?

By testers.

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.

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.

131. Why is incremental integration preferred over "big bang" integration?

Because incremental integration has better early defects screening and isolation ability

133. During which test activity could fault be found most cost-effectively?

During test planning

134. The purpose of the requirement phase is

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

136. What is DRE?

In order to measure test effectiveness, a powerful metric is used to measure test effectiveness known as DRE (Defect Removal Efficiency) From this metric we would know how many bugs we have found from the set of test cases. The formula for calculating DRE is

DRE=Number of bugs while a testing/number of bugs while testing + number of bugs found by a user

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

138. How would you estimate the amount of re-testing likely to be required?

Metrics from previous similar projects and discussions with the development team

139. What studies data flow analysis?

The use of data on paths through the code.

140. What is failure?

Failure is a departure from specified behavior.

141. What are Test comparators?

Is it really a test if you put some inputs into some software, but never look to see whether the software produces the correct result? The essence of testing is to check whether the software produces the correct result and to do that, and we must compare what the software produces to what it should produce. A test comparator helps to automate aspects of that comparison.

142. Who is responsible for document all the issues, problems and open point that were identified during the review meeting

Scribe

143. What is the main purpose of Informal review

An inexpensive way to get some benefit

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

146. A test manager wants to use the resources available for the automated testing of a web application. The best choice is Tester, test automation, web specialist, DBA

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

148. A type of integration testing in which software elements, hardware elements, or both are combined all at once into a component or an overall system, rather than in stages.

Big-Bang Testing

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

150. Which technique can be used to achieve input and output coverage? It can be applied to human input, input via interfaces to a system, or interface parameters in integration testing.

Equivalence partitioning

151. "This life cycle model is driven by schedule and budget risks" This statement is best suited for.

V-Model

152. In which order should tests be run?

The most important one must be tested first

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.

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