**Module -2**

**1 ) What Is Exploratory Testing**

Exploratory testing is **an approach to software testing that is often described as simultaneous learning, test design, and execution**. It focuses on discovery and relies on the guidance of the individual tester to uncover defects that are not easily covered in the scope of other tests.

2) What is Traceability Matrix?

A traceability matrix is **a document that details the technical requirements for a given test scenario and its current state**. It helps the testing team understand the level of testing that is done for a given product.

3) What is Boundary Value Testing?

A Boundary value problem is a system of ordinary differential equations with solution and derivative values specified at more than one point. Most commonly, the solution and derivatives are specified at just two points (the boundaries) defining a two-point boundary value problem.

4) What is Equivalent partitioning testing ?

Equivalence partitioning (EP) is **a method for testing software programs**. In this technique, the data fed into the software to be tested is divided into partitions of equal sizes. From each partition of data, one test case is needed. The different test cases must test the classes of the software continuously.

5) What is integration testing ?

Integration testing -- also known as integration and testing (I&T) -- is **a type of software testing in which the different units, modules or components of a software application are tested as a combined entity**.

6) What is the determines the level of risk?

**The probability that an adverse event will occur**. The likelihood of an adverse event and the impact of the event. The cost of dealing with an adverse event if it occurs.

7) What is alpha testing?

lpha testing is **conducted in the organization and tested by a representative group of end-users at the developer's end, where the developers observe the users and write down the problems**. Alpha testing is simulated or real operational testing at an in-house site.

8) What is beta Testing?

Beta testing is **an opportunity for real users to use a product in a production environment to uncover any bugs or issues before a general release**. Beta testing is the final round of testing before releasing a product to a wide audience.

9) What is component testing ?

Component testing, also known as **program or module testing**, is done after unit testing. In this type of testing those test objects can be tested independently as a component without integrating with other components e.g. modules, classes, objects, and programs. This testing is done by the development team.

10) What is functional system testing ?

unctional testing of a system includes **tests that evaluate the functions that the system must perform**. Functional requirements may be described in work products (requirements, specification, business need, user story, use case) and in the functional specification.

11) What is non-functional testing?

Non-functional testing **assesses application properties that aren't critical to functionality but contribute to the end-user experience**. Performance and reliability under load aren't functional components of a software system but can certainly make or break the user experience.

12) What is GUI Tesiting ?

Graphic User Interface Testing (GUI) testing is **the process of ensuring proper functionality of the graphical user interface (GUI) for a specific application**. This involves making sure it behaves in accordance with its requirements and works as expected across the range of supported platforms and devices.

13) What is adhoc testing ?

**Performing random testing without any plan** is known as Ad Hoc Testing. It is also referred to as Random Testing or Monkey Testing. This type of testing doesn't follow any documentation or plan to perform this activity.

14 ) What is Load Testing?

This is **a type of software testing in which the software component or system is subjected to increasing load in order to study its behavior**.

15) What is stress testing?

Stress testing is **a computer-simulated technique to analyze how banks and investment portfolios fare in drastic economic scenarios**. Stress testing helps gauge investment risk and the adequacy of assets, as well as to help evaluate internal processes and controls.

16 ) What is white box testing and list types of white box testing?

White box testing is **a form of application testing that provides the tester with complete knowledge of the application being tested, including access to source code and design documents**. This in-depth visibility makes it possible for white box testing to identify issues that are invisible to gray and black box testing.

* Statement Coverage.
* Branch Coverage.
* Path Coverage.

17) What is black box testing ? what are different black box testing technique?

Black-box testing is a method of software testing that examines **the functionality of an application without peering into its internal structures or workings**. This method of test can be applied virtually to every level of software testing: unit, integration, system and acceptance.

18) Mention what are the categories of defect?

**Common Types of Defects**

* Arithmetic Defects.
* Logical Defects.
* Syntax Defects.
* Multithreading Defects.
* Interface Defects.
* Performance Defects.

19) Mention what big bang testing is?

Big bang integration testing is **a testing methodology in which all components or modules of a system are combined and tested as a whole**. It is often used when it is not practical to test all components together incrementally.

20) What is the purpose of exit criteria?

Exit criteria are **the criteria or requirements which must be met to complete a specific task or process as used in some fields of business or science**, such as software engineering.

21 ) When should regression testing performs?

Regression testing is **executed after making changes to a software product and retests the product areas that may have been impacted by the fix**. This can be automated or performed manually by executing a particular set of test cases (test scripts in case of Automation)

22) What is 7 key principle? Explain in detail?

1. Testing shows presence of defects
2. Exhaustive testing is not possible
3. Early testing
4. Defect clustering
5. Pesticide paradox
6. Testing is context dependent
7. Absence of errors fallacy

**1) Exhaustive testing is not possible**

Yes! Exhaustive testing is not possible. Instead, we need the optimal amount of testing based on the risk assessment of the application.

## 2) Defect Clustering

Defect Clustering which states that a small number of modules contain most of the defects detected. This is the application of the Pareto Principle to software testing: approximately 80% of the problems are found in 20% of the modules.

## 3) Pesticide Paradox

Repetitive use of the same pesticide mix to eradicate insects during farming will over time lead to the insects developing resistance to the pesticide Thereby ineffective of pesticides on insects. The same applies to software testing. If the same set of repetitive tests are conducted, the method will be useless for discovering new defects.

## 4) Testing shows a presence of defects

Hence, testing principle states that – Testing talks about the presence of defects and don’t talk about the absence of defects. i.e. Software Testing reduces the probability of undiscovered defects remaining in the software but even if no defects are found, it is not a proof of correctness.

## 5) Absence of Error – fallacy

It is possible that software which is 99% bug-free is still unusable. This can be the case if the system is tested thoroughly for the wrong requirement. Software testing is not mere finding defects, but also to check that software addresses the business needs. The absence of Error is a Fallacy i.e. Finding and fixing defects does not help if the system build is unusable and does not fulfill the user’s needs & requirements.

## 6) Early Testing

Early Testing – Testing should start as early as possible in the Software Development Life Cycle. So that any defects in the requirements or design phase are captured in early stages. It is much cheaper to fix a Defect in the early stages of testing. But how early one should start testing? It is recommended that you start finding the bug the moment the requirements are defined. More on this principle in a later training tutorial.

## 7) Testing is context dependent

Testing is context dependent which basically means that the way you test an e-commerce site will be different from the way you test a commercial off the shelf application. All the developed software’s are not identical. You might use a different approach, methodologies, techniques, and types of testing depending upon the application type. For instance testing, any POS system at a retail store will be different than testing an ATM machine.

23) Difference between QA,QC and Taster?

Quality Control: A set of activities designed to evaluate a developed work product. Testing: The process of executing a system with the intent of finding defects.

QA primarily focuses on the processes and procedures that improve quality, including training, documentation, monitoring and audits. QC focuses on the product to find defects that remain after development.

25) Difference between smoke and sanity?

Smoke test is done to make sure that the critical functionalities of the program are working fine, whereas sanity testing is done to check that newly added functionalities, bugs, etc., have been fixed. The software build may be either stable or unstable during smoke testing.)

26) difference between verification and validation?

Verification uses methods such as walkthroughs, reviews, desk-checking, and inspection. Validation uses a method such as White Box Testing, Black Box Testing, etc.

27 ) Explain types of performance testing

* **Load testing**
* **Stress testing**
* **Scalability testing**
* **Stability testing**

**28) What is error,defect,bug and failure?**

In [software testing](https://www.javatpoint.com/software-testing-tutorial), a [bug](https://www.javatpoint.com/bug-in-software-testing) is the informal name of defects, which means that software or application is not working as per the requirement. When we have some coding error, it leads a program to its breakdown, which is known as **a bug**. The **test engineers** use the terminology **Bug**.

When the application is not working as per the requirement is knows as **defects**. It is specified as the aberration from the **actual and expected result** of the application or software.

The Problem in code leads to errors, which means that a mistake can occur due to the developer's coding error as the developer misunderstood the requirement or the requirement was not defined correctly. The **developers** use the term **error**.

Many defects lead to the **software's failure**, which means that a loss specifies a fatal issue in software/ application or in its module, which makes the system unresponsive or broken.

29) Difference between priority and severity?

**Severity allows a stakeholder to quickly understand the impact an incident is causing, and priority is how fast a responder should react to the incident**. These toggles help teams, and stakeholders rapidly understand the overall scope of an incident and the expected level of response.

30) What is the bug life cycle?

Different states of a defect, in this case, are **New, Assigned, Open, Fixed, Pending Retest, Retest, Verified, and Closed**.

31) Explain the difference functional testing and non functional testing?

**Functional testing is done based on the business requirement.** Non- functional testing is done based on the customer expectation and Performance requirement. It tests whether the actual result is working according to the expected result

32) Create hlr & test case of facebook and instagram first page

| **Feature to be Tested** | **Test Cases** |
| --- | --- |
| Login page | 1. Open the browser and enter the URL for the Facebook login page. 2. Verify that the password textbox is present on the UI login page. 3. Verify that the username textbox is present on the UI login page. 4. Verify that the login button is present on the UI login page. |
| Credentials page | 1. Enter the valid username and password in the respective text boxes and click on the login button. 2. Verify that the error message is displayed when the user tries to login with invalid credentials. |
| Profile page | Verify that the user is able to login successfully by checking the presence of the profile name. |
| Error message | 1. Verify that the user is able to see the error message when the username is wrong. 2. Verify that the user is able to see the error message when the password is wrong. |
| Home page | 1. Verify that the user is able to see the home page after successful login. 2. Verify that the user is able to see the logout button on the home page. |

1. Verify if the share button is clickable or not.
2. Check if the page redirects to the expected page or not when the user chooses the share option.
3. Check if the button name is showing as per requirement or not.

**33) What is difference between STLC and SDLC?**

The SDLC phases are Requirement Gathering, System Analysis, Software Designing, Coding, Software Test Execution, and Deployment & maintenance. The STLC phases are Requirement Analysis, Test Planning, Designing of Test, Environment Setup, Software Test Execution, and Test Cycle Closure.

34 ) what is difference between test case, test scenario and test script?

Difference between Test case and Test Scenarios. 1. The test case is a detailed document, which provides information about the testing strategy, testing process, preconditions, and expected output. The test scenarios are those derived from the use case and give the one-line information about what to test.

What is in a test script?

Test Scripts are a line-by-line description of all the actions that are necessary to perform and test on specific user journeys. It lists out each step that should be taken with the expected results. Then testers can easily as systematically test each step on a wide range of devices

**35) explain what test plan is and what is the information that should be covered?**

A test plan documents the strategy that will be used **to verify and ensure that a product or system meets its design specifications and other requirements**. A test plan is usually prepared by or with significant input from test engineers.

36) What is Priority?

**the fact or condition of being prior; precedence in time, order, importance, etc**. 2. a. a right to precedence over others in obtaining, buying, or doing something.

37) What is severity?

**Severity is a term that denotes how severely a defect can affect the functionality of the software**

38) Bug Categories Are?

In software testing, a software bug can also be **issue, error, fault, or failure**. The bug occurred when developers made any mistake or error while developing the product. While testing the application or executing the test cases, the test engineer may not get the expected result as per the requirement.

39) Advantage of Bugzilla?

* Advanced Search Capabilities.
* Email Notifications Controlled By User Preferences.
* Bug Lists in Multiple Formats (Atom, iCal, etc.)
* Scheduled Reports (Daily, Weekly, Hourly, etc.) by Email.
* Reports and Charts.
* Automatic Duplicate Bug Detection.
* File/Modify Bugs By Email.
* Time Tracking.

40) what are the different methodologies in agile development model

It contains six phases: **concept, inception, iteration, release, maintenance, and retirement**. The Agile life cycle will vary slightly depending on the project management methodology chosen by a team. For example, Scrum teams work in short time periods known as sprints, which are similar to iterations.

41) explain the difference between authorization and authentication

In simple terms, **authentication is the process of verifying who a user is, while authorization is the process of verifying what they have access to**. Comparing these processes to a real-world example, when you go through security in an airport, you show your ID to authenticate your identity.

42) Test case of WhatsApp

Verify that on downloading the Whatsapp application, users can register using a new mobile number.

1. Verify that for a new mobile number user will get a verification code on his mobile and filling in the same verifies the new user account.
2. Check the maximum number of incorrect attempts allowed while filling out the verification code.
3. Verify that registering an existing mobile number for new user account registration is not allowed.
4. Verify that on successful registration all the contacts in the user’s contact directory get imported to the Whatsapp contact list.
5. Verify that the user can set DP and status on Whatsapp.
6. Verify that the user can update the existing DP and Whatsapp status.
7. Verify that the user can send messages to any individual selected from his contact list.
8. Verify that ‘Chats’ window contains all the chat list with DP and name and last message preview of the other person with whom chat was initiated.
9. Verify that clicking a chat in the chat list opens a new window containing all the chats received and sent with the other person.