**Module - 2 (Manual Testing)**

* **What is Exploratory Testing?**
* Exploratory testing is a concurrent process where Test design, execution and logging happen simultaneously Testing is often not recorded Makes use of experience, heuristics and test patterns Testing is based on a test charter that may include.
* **What is traceability matrix?**Test conditions should be able to be linked bac
* k to their sources in the test basis, this is known as traceability.
* To protect against changes you should be able to trace back from every system component to the original requirement that caused its presence.
* **What is Boundary value testing?**
* Boundary value analysis is a methodology for designing test cases that concentrates software testing effort on cases near the limits of valid ranges
* Boundary value analysis is a method which refines equivalence partitioning.
* **What is Equivalence partitioning testing?**
* Aim is to treat groups of inputs as equivalent and to select one representative input to test them all
* EP can be used for all Levels of Testing
* **What is Integration testing?**
* Integration testing is a level of software testing process where individual units are combined and tested as a group.
* **What is Alpha testing?**
* It is always performed by the developers at the software development site.
* Sometimes it is also performed by Independent Testing Team. Alpha Testing is not open to the market and public
* It is conducted for the software application and project. It is always performed in Virtual Environment
* **What is beta testing?**
* It is always performed by the customers at their own site. It is not performed by Independent Testing Team.
* Beta Testing is always open to the market and public. It is usually conducted for software product.
* It is performed in Real Time Environment
* **What is component testing?**
* Component testing is a testing of individual software components.
* **What is functional system testing?**
* Functional Testing is a Testing based on an analysis of the specification of the functionality of a component or system.
* **What is Non-Functional Testing?**
* Non-Functional Testing: Testing the attributes of a component or system that do not relate to functionality, e.g. reliability, efficiency, usability, interoperability, maintainability and portability
* **What is GUI Testing?**
* Graphical User Interface (GUI) testing is the process of testing the system’s GUI of the System under Test. GUI testing involves checking the screens with the controls like menus, buttons, icons, and all types of bars – tool bar, menu bar, dialog boxes and windows etc.
* **What is Adhoc testing?**
* Adhoc testing is an informal testing type with an aim to break the system.
* **What is load testing?**
* Its a performance testing to check system behavior under load. Testing an application under heavy loads, such as testing of a web site under a range of loads to determine at what point the system’s response time degrades or fails.
* **What is stress Testing?**
* System is stressed beyond its specifications to check how and when it fails. Performed under heavy load like putting large number beyond storage capacity, complex database queries, continuous input to system or database load.
* **What is white box testing and list the types of white box testing?**
* White Box Testing: Testing based on an analysis of the internal structure of the component or system.

The different types of coverage are:

1. Statement coverage
2. Decision coverage
3. Condition coverage

* **What is black box testing? What are the different black box testing techniques?**
* Black-box testing: Testing, either functional or non-functional, without reference to the internal structure of the component or system**.**

There are four specification-based or black-box technique:

1. Equivalence partitioning
2. Boundary value analysis Decision tables
3. State transition testing Use-case Testing
4. Other Black Box Testing

* **Mention what are the categories of defects?**

1. Data Quality/Database Defects:
2. Critical Functionality Defects:
3. Functionality Defects:
4. Security Defects
5. User Interface Defects:

* **Mention what big bang testing is?**
* In Big Bang integration testing all components or modules is integrated simultaneously, after which everything is tested as a whole.
* Big Bang testing has the advantage that everything is finished before integration testing starts.
* **What is the purpose of exit criteria?**

Purpose of exit criteria is to define when we STOP testing either at the:

1. End of all testing – i.e. product Go Live
2. End of phase of testing (e.g. hand over from System Test to UAT)

* **Difference between QA v/s QC v/s Tester**

QA :

1. Qa is a Process oriented activities
2. It is a Preventive activities.
3. It is a subset of Software Test Life Cycle (STLC).

QC:

1. Qc is a Product oriented activities.
2. Qc It is a corrective process.
3. QC can be considered as the subset of Quality Assurance.

TESTER:

1. Testing is a Product oriented activities.
2. It is a preventive process.
3. Testing is the subset of Quality Control.

* **Difference between Smoke and Sanity?**

Smoke:

1. The objective of this testing is to verify The "stability" of the system in order to the rigorous testing
2. Smoke testing is usually documented or scripted
3. Smoke testing is like General Health Check Up

Sanity:

1. The objective of this testing is to verify The " rationality" of the system in order to the rigorous testing
2. Sanity testing is usually not documented and
3. Sanity Testing is like specialized health check up

* **Difference between verification and Validation**

Verification:

1. The process of evaluating work-products (not the actual final product) of a development phase to determine whether they meet the specified requirements for that phase.
2. Are we building the product right?
3. Plans, Requirement Specs, Design Specs, Code, Test Cases

Validation:

1. The process of evaluating software during or at the end of the development process to determine whether it satisfies specified business requirements.
2. Are we building the right product?
3. The actual product/software

* **Explain types of Performance testing.**

Software performance testing is a means of quality assurance (QA). It involves testing software applications to ensure they will perform well under their expected workload.

* **is Error, Defect, Bug and failure?**

“A mistake in coding is called error, error found by tester is called defect, defect accepted by development team then it is called bug, build does not meet the requirements then it is failure”.

* **Difference between Priority and Severity**
* **Severity:**
* Severity is absolute and Customer-Focused
* is the extent to which the defect can affect the software. In other words it defines the impact that a given defect has on the system
* Severity can be of following types

1. Critical
2. High
3. medium
4. low
5. cosmetic

* **Priority:**
* Priority is Relative and Business-Focused.
* Priority defines the order in which we should resolve a defect. Should we fix it now, or can it wait? This priority status is set by the tester to the developer mentioning the time frame to f ix the defect. If high priority is mentioned then the developer has to fix it at the earliest. The priority status is set based on the customer requirements
* Priority can be of following types:

1. Low:
2. Medium:
3. High:
4. Critical:

* **What is Bug Life Cycle?**
* “A computer bug is an error, flaw, mistake, failure, or fault in a computer program that prevents it from working correctly or produces an incorrect result. Bugs arise from mistakes and errors, made by people, in either a program’s source code or its design.
* **What is the difference between the STLC (Software Testing Life Cycle) and SDLC (Software Development Life Cycle)?**

**STLC:**

1. The Software Testing Life Cycle (STLC) is a process that verifies whether the Software Quality meets the expectations or not. STLC is an important process that provides a simple approach to testing through the step-by-step process, which we are discussing here.
2. STLC stands for Software Testing Life Cycle
3. STLC Phases:

* Requirement Analysis
* Test Planning
* Test case development
* Test Environment setup
* Test Execution
* Test Cycle closure

**SDLC:**

1. SDLC is a structure imposed on the development of a software product that defines the process for planning, implementation, testing, documentation, deployment, and ongoing maintenance and support**.**
2. SDLC stands for Software Development Life Cycle.
3. SDLC Phases name:

* Requirements Collection
* Analysis
* Design
* Implementation
* Testing
* Maintenance
* **What is the difference between test scenarios, test cases, and test script?**

1. Test Scenario:

* Purpose: A high-level description of a functionality or an end-to-end business process that needs to be tested. It answers "what to test."
* Detail Level: Broad and focuses on the overall functionality, often a single sentence or a few lines.
* Example: "Verify user login functionality."

2. Test Case:

* Purpose: A detailed, step-by-step procedure for verifying a specific aspect of a test scenario. It answers "what to test" and "how to test."
* Detail Level: Contains specific steps, preconditions, input data, and expected results for a particular test. Derived from test scenarios.
* Example (for "Verify user login functionality")

Test Case ID: TC\_Login\_001

3. Test Script:

* Purpose: An executable set of instructions, often written in a programming language, designed to automate the execution of one or more test cases.
* Detail Level: Code-based instructions for automated execution, typically used in automated testing frameworks.
* Example (Conceptual for "Verify successful login"):
* **Explain what Test Plan is? What is the information that should be covered.**
* A document describing the scope, approach, resources and schedule of intended test activities
* Its cover **Test Plan ID, Test Objectives, Scope of Testing, Testing Approach, Test Deliverables, Entry and Exit Criteria, Test Environment, Test Schedule**
* **What is priority?**
* Priority is Relative and Business-Focused. Priority defines the order in which we should resolve a defect. Should we fix it now, or can it wait? This priority status is set by the tester to the developer mentioning the time frame to f ix the defect
* **What is severity?**
* Severity is absolute and Customer-Focused. It is the extent to which the defect can affect the software. In other words it defines the impact that a given defect has on the system.
* **Bug categories are…**
* functional, performance, security, etc
* **Advantage of Bugzilla.**
* Bugzilla is an open-source issue/bug tracking system that allows developers effectively to keep track of outstanding problems with their product. It is written in Perl and uses MYSQL database.
* **What are the different Methodologies in Agile Development Model?**
* Scrum, Kanban, Extreme Programming (XP), Feature-Driven Development (FDD), and Crystal.
* **Explain the difference between Authorization and Authentication in Web testing.What are the common problems faced in Web testing?**

**Authorization:**

* **In the authentication process, the identity of users are checked for providing the access to the system.**
* **In the authentication process, users or persons are verified.**
* **It is done before the authorization process**
* **It needs usually the user's login details.**

**Authentication**:

* While in authorization process, a the person's or user's authorities are checked for accessing the resources.
* While in this process, users or persons are validated.
* While this process is done after the authentication process.
* While it needs the user's privilege or security levels.