**Software Testing Assignment**

***Module 2 (Manual Testing)***

1. **What is exploratory testing?**

Exploratory Testing is an approach of simultaneous learning of test design and execution.

1. **What is traceability matrix?**

Traceability matrix is a document that co-relates any two baseline document that require many to many relationship to check the completeness of a relationship.

1. **What is boundary value testing?**

Boundary Value Analysis is based on testing the boundary values with valid and invalid partitions.

1. **What is equivalence partitioning testing?**

Equivalence Partitioning Method is used to divide the input data of a software unit into partitions of equivalent data from which test cases can be derived.

1. **What is Integration testing?**

Integration Testing in which the different units, molecules or component are tested as combined group.

1. **What determines the level of risk?**

Level of Risk determine on the likelihood of an adverse event and the impact of the event.

1. **What is alpha testing?**

Alpha Testing is performed to identify bugs before releasing the product to user or to the public. Alpha Testing is one of the user acceptance testing.

1. **What is beta testing?**

Beta Testing is done after alpha testing in which a sampling of the intended audience tries the product.

1. **What is component testing?**

Component Testing is the object tested independently as a component without integrating with other components.

1. **What is functional testing?**

Functional Testing performed using the specification provided by the client and verifies the system against the functional requirements.

1. **What is non-functional testing?**

Non-functional Testing checks the performance, reliability, scalability and other non-functional aspects.

1. **What is GUI Testing?**

GUI is Graphical User Interface refers to testing the function of an application that are visible to user. It specially focus on the design structure, images that they are working properly or not.

1. **What is Adhoc Testing?**

Adhoc testing is performed informally and randomly after the formal testing is completed to find out the loophole in the system.

1. **What is load testing?**

Load Testing is done in order to check when the application fails by increasing number of user and keeping the system resources as constant.

1. **What is stress testing?**

Stress Testing is performed the stability and reliability of the system. This test particularly defines the system on its robustness and error handling under extremely heavy load conditions.

1. **What is white box testing and list the types of white box testing?**

White box testing is based on the analysis of the internal structure of the system. There are many types of white box testing like path testing, loop testing, conditional testing, unit testing, mutation testing, integration testing, penetration testing etc.

1. **What is black box testing? What are the different black box testing techniques?**

Black box testing is based on the analysis of functional or non-functional without reference to the internal structure of the system. The techniques of black box testing is Equivalence partitioning, Boundary Value Analysis, Decision Table, State transition testing.

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

There are many types of defects like design defect, command defect, security defects, interface defects and many more.

1. **Mention what is big bang testing?**

Big bang testing is testing all components is integrated simultaneously, everything is tested as whole.

1. **What is purpose of exit criteria?**

The main purpose of exit criteria is to determine the given test activity is completed or not, all high priority bugs are fixed and closed.

1. **When should regression testing be performed?**

Regression Testing is performed on a new build when there is significant change in the original functionality. Regression means Retest those parts of the application which are unchanged

1. **What is 7 key principles? Explain in details?**
2. Testing shows presence of defects – Testing show that there are defects, but there is no proof that there are no defects.
3. Exhaustive Testing is Impossible – Testing everything is not possible, so instead of exhaustive testing prioritized risk and testing efforts.
4. Early Testing – Testing should start as soon as possible as be focused on defined objective.
5. Defect Clustering – The small number of modules contains most of the bugs detected or show the operational failure.
6. Pesticide Paradox – If the same test are repeated over n over again, there no longer find any defects.
7. Testing is Context dependent – Testing is done differently in different context so basically testing is context dependent.
8. Absence of Errors Fallacy – If the system built is unusable and does not fulfil the user needs and expectation then finding and fixing defect does not help.
9. **Difference between QA v/s QC v/s Testing?**

The main difference is **Quality Assurance** is a set of processes that help “avoid” defects and assure quality. **Quality Control** is a set of activities that help detect defects and quality issues before the products reach the hands of end customers. **Tester** is one of the ways of detecting those defects.

1. **Difference between smoke and sanity?**

* **Smoke Testing** is to verify the stability, whereas the **Sanity Testing** is to verify rationality
* Software Developers and Testers perform **Smoke Testing**, whereas the Testers alone perform **Sanity Testing.**
* **Smoke Testing** is a subset of acceptance testing, while **Sanity Testing** is a subset of Regression Testing.

1. **Difference between Verification and Validation?**

**Validation** is the process of checking whether the specification captures the customer's requirements. **Verification** is the process of checking that the software meets specifications.

1. **Explain types of Performance testing**
2. **Load Testing –** Load Testing is done in order to check when the application fails by increasing number of user and keeping the system resources as constant.
3. **Stress Testing -** Stress Testing is performed the stability and reliability of the system. This test particularly defines the system on its robustness and error handling under extremely heavy load conditions.
4. **Endurance Testing –** Endurance Testing evaluates the performance of the system under load over time or by reducing certain system resources and evaluating consequences.
5. **Spike Testing –** Spike Testing evaluates the ability to handle sudden volume increases. It is a type of performance testing in which a application receives a sudden and extreme increase or decrease in load.
6. **Volume Testing –** Volume Testing is used to evaluate the application‘s ability to handle large volumes of the data. It is important for application to deal with big data.
7. **Scalability Testing –** This testing is used to determine the application‘s ability to handle increasing amount of load and processing.
8. **What is Error, Defect, Bug, failure?**

A mistake by programmer during coding is **Error,** an error found during the unit testing in the development phase is called **Defect,** an error found during the testing phase is called **Bug** and when an error is found at a user’s end is called **Failure.**

1. **Difference between Priority and Severity**

* **Priority** is a parameter to decide in which order the defects should be fixed. **Severity** is a parameter to denote the impact of a particular defect on the software.
* **Priority** is how fast the defect has to be fixed. **Severity** is how severe the defect is affecting the functionality.
* **Priority** relates to the scheduling of defects to resolve them in software. **Severity** relates to the standard of quality.

1. **What is life bug cycle?**

Life Bug Cycle is also known as Defect Cycle in which defect goes through during its lifetime.

1. **Explain difference between Functional Testing and Non Functional Testing**

* **Functional Testing** is mainly focusing on the behaviour of application while **Non-functional Testing** is focusing on the performance of application.
* **Functional Testing** is checking the application as per customer expectation **Non Functional testing** is to check the performance, reliability and stability of the application.
* **Functional Testing** is done first like Unit testing, system testing. **Non Functional Testing** is done after functional testing like performance, security testing etc.

1. **What is difference between the STLC and SDLC**

* **STLC** is mainly related to Software Testing and **SDLC** is mainly related to Software Development.
* Goal of **STLC** is to complete successful testing of software while **SDLC** is to complete successful development of software.
* **STLC** helps making software defect free, while **SDLC** helps in developing good quality software.

1. **Explain what Test Plan is? What is the information that should be covered?**

Test Plan is a detailed document that includes defining test objectives, test approach, test tools, test environment, test schedule, team responsibilities and composition.

1. **What is priority?**

Priority is a parameter to decide in which order the defects should be fixed.

1. **What is severity?**

Severity is a parameter to denote the impact of a particular defect on the software.

1. **Bug categories are…**

Performance Bugs, Security Bugs, Unit Level Bugs, Functional Bugs, Usability Bugs, Logic Bugs and many more.

1. **Advantage of Bugzila**

* Advanced Search capabilities
* Time Tracking
* Strong Security
* Email Notification
* Modify files

1. **What are the different Methodologies in Agile Development Model?**

There are mainly 5 methodologies in Agile Development Model, they are Scrum, Kanban, Extreme Programming (XP), Lean Development and Crystal.

1. **Explain the difference between Authorization and Authentication in Web testing. What are the common problems faced in Web testing?**

Authentication and authorization are two vital information security processes that use to protect systems and information. **Authentication** verifies the identity of a user or service**,** and **authorization** determines their access rights.