**Assignment no.2**

Module–2 (Manual Testing)

* **What is software testing?**

Software testing is a process used to identify the correctness, completeness, and quality of development computer software.

* **What is Exploratory Testing?**

Exploratory testing is concurrent process where test design, execution, and login happen simultaneously.

* **What is Traceability matrix?**

Test condition should be able to link back to their sources in the test basis.

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 concentrate software testing effort on cases net the limit of valid ranges.

* **What is Equivalence partitioning testing?**

Equivalence partitioning is the process of defining the optimum number of tests by:

1. Reviewing documents such as the Functional Design Specification and Detailed

Design Specification, and identifying each input condition within a function.

1. Selecting input data that is representative of all other data that would likely invoke

The same process for that particular condition.

* **What is Integration testing?**

Integration testing is a level of software testing process where individual units are combined and tested as a whole.

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

A factor could result in future negative consequence, usually expressed as impact and like hood.

* **What is Alpha testing?**

1. It is always perform by the developer at software development site.
2. It is not always open to the market or public.
3. Some time it is performed by independent team.
4. It is performing by within organization.
5. It is always perform in virtual environment.
6. It is come under the both category black box and white box.

* **What is beta testing?**

1. It is always perform by the customer at their own site.
2. It is always open to the market and public.
3. It is not performed by some independent team.
4. It is performing outside of the organization.
5. It is always performing in real time environment.
6. It is a only kind of black box testing.

* **What is component testing?**

A component testing is minimal software testing item that can be tested in isolation, it means a smallest testable part of the software.

* **What is functional system testing?**

Testing based on an analysis of the specification of the functionality of a component or system.

It is also known as s specification testing.

* **What is Non-Functional Testing?**

Testing the attributes of a component or system that do not related to functionality.

* **What is GUI Testing?**

GUI testing involves checking the screens with control like menus, button, icon, and all types of bars.

* **What is Adhoc testing?**

Adhoc testing is an informal testing type with an aim to break the system. Main aim of this testing is to find defect by random checking.

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

White box testing is based on an analysis of the internal structure of the component or system.

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

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

Black box testing is either functional or non functional without knowing internal structure of the component or system.

1. Equivalent partitioning.
2. Boundary value analysis
3. Decision table.
4. State transition testing.
5. Use case testing.
6. Syntax or pattern testing.

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

There are 5 types defect,

1. Database defects.
2. Critical functionality defect.
3. Functionality defect.
4. Security defects.
5. User interface defect.

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

In big bang integration testing all component and module is integrated simultaneously after which everything is tested as a whole.

* **What is the purpose of exit criteria?**

Purpose of exit criteria is to be define when we stop testing either at the,

* End of all testing.
* End of phase of testing.
* **When should "Regression Testing" be performed?**

Regression testing is performance in below condition,

* Change in requirements and code is modified according it the requirement.
* New feature is added to the software.
* Defect fixing.
* Performance issues fix.
* **What are 7 key principles? Explain in detail?**

1. **Testing shows presence of defects: -** Testing can show that defect are present, but cannot prove that there are no defects.

* We test to find faults.

1. **Exhaustive testing is impossible: -** Testing everything including all combinations of inputs and preconditions is not possible. So, instead of doing the exhaustive testing we can use risk and priorities to focus testing efforts.
2. **Early testing:** - testing activities should start as early as possible in the software or system development life cycle and should be focused on defined objectives.
3. **Defect clustering: -** Defect is not evenly spread in a system they are ‘clustered’. Most defects found during testing are usually confined to a small number of modules.
4. **Pesticide paradox:** - If the same tests are repeated over and over again, eventually the same set of test cases will no longer find any new defects.

To overcome this pesticide paradox, the test cases need to be regularly reviewed and revised, and new and different rests need to be written to exercise different parts of the software or system to potentially find more defects.

1. **Testing context dependent: -** Testing is basically context dependent.

Different kinds of sites are tested differently.

Testing is done differently in different contexts.

1. **Absence of errors fallacy: -** If the system built is unusable and does not fulfill the user’s needs and expectations then finding and fixing defects does not help. It doesn’t make it a good system.

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

| **Sr. no.** | **Quality assurance** | **Quality Control** | **Testing** |
| --- | --- | --- | --- |
| 1 | Activities which ensure the implementation of processes, procedures and standards in context to verification of developed software and intended requirement. | Activities which ensure the verification of developed software with respect to documented. | Activities which ensure the identification of bugs/error/defect in the software. |
| 2 | Focuses on processes and procedures rather than conducting actual testing on the system. | Focuses on actual testing by executive software with intend to identify bug/defect through implementation of procedures and process. | Focuses on actual testing. |
| 3 | Process oriented activities. | Product oriented activities. | Product oriented activities. |
| 4 | It is a preventive activity. | It is a corrective process. | It is a preventive process. |
| 5 | It is a sub set of software test life cycle (STLC). | QC can be considered as the subset of quality assurance. | Testing is the subset of quality control. |

* **Difference between Smoke and Sanity?**

| **Sr. no.** | **Smoke Testing** | **Sanity Testing** |
| --- | --- | --- |
| 1 | Smoke testing is performance after software builds to verify the critical functionality of program is working fine. | After receiving software builds with minor change in code sanity testing is perform to verify bug have been fixed and due to change no further effect are interfaced due to this changes. |
| 2 | This testing is performed by the developers or tester. | This testing performed by the tester. |
| 3 | This testing is to verify the stability. | This testing is to verify the rationality. |
| 4 | Smoke testing is subset of regression testing. | Sanity testing is subset of acceptance testing. |
| 5 | Smoke testing is usually documented and scripted. | Sanity testing is usually not documented and is unscripted. |
| 6 | Smoke testing is like general health check up. | Sanity testing is like specialized health check up. |

* **Difference between Verification and Validation.**

| **Sr. no.** | **Verification** | **Validation** |
| --- | --- | --- |
| 1 | Before coding is verification phase. | After coding is validation phase. |
| 2 | Before coding is development level. | After coding is testing level. |
| 3 | Before coding is static testing. | After coding is dynamic testing. |
| 4 | Types of Verification phase,   1. User requirement. 2. System requirements. 3. Technical specification. 4. Program specification. | Types of Validation phase,   1. Unit testing. 2. Integration testing. 3. System testing. 4. Acceptance testing. |

* **Explain types of Performance testing.**

There are 2 types of performance testing.

1. **Load testing / Volume testing / Scalability testing.**

“Load testing is kind of performance testing which determines a system’s performance under real life load condition.”

1. **Stress testing / Endurance testing / Spike testing.**

“It’s a performance testing to check system behavior under extreme condition.

Testing an application under heavy load, such as testing of a web site under a range of loads to determine at what point the system’s response time degrades of fails.”

* **What 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 requirement then it is **failure**.

* **Difference between Priority and Severity.**

| **Sr. no.** | **Severity** | **Priority** |
| --- | --- | --- |
| 1 | Severity is associated with functionality. | Priority is associated with scheduling. |
| 2 | Severity defect is absolute. | Priority defect is relative. |
| 3 | Severity is customer focused. | Priority is business focused. |
| 4 | It indicates the seriousness of defect. | It indicates how soon the bug should be fixed. |
| 5 | Severity level are,   1. Critical. 2. Major. 3. Medium. 4. Minor. 5. Cosmetic. | Priority level are, 1) Critical.  2) High.  3) Medium.  4) Low. |

* **What is Bug Life Cycle?**

The duration or time spam between the first time defects is found and the time that it is closed successfully, rejected, postponed, or deferred is called as bug life cycle.

* **Explain the difference between Functional testing and Non-Functional testing.**

| **Sr. no.** | **Functional testing** | **Non-Functional testing** |
| --- | --- | --- |
| 1 | Functional testing is performing using the functional specification provided by the client & verifies the system against the functional requirement. | Non-functional testing checks the performing, reliability, scalability, and other non functional aspect of the software system. |
| 2 | Functional testing executed first. | Non functional testing should be performed after functional testing. |
| 3 | Easy to do manual testing. | Tough to do manual testing. |
| 4 | Manual & automation tools can be used for functional testing. | Using tools will be effect for this testing. |
| 5 | Functional testing describes that the product does. | Non functional testing describing how good the product works. |
| 6 | Types of functional testing,   * Smoke testing. * Sanity testing. * Integration testing. * White/black box testing. * Regression testing. * User acceptance testing. | Types of non functional testing,   * Performance testing. * Load testing. * Stress testing. * Volume testing. * Installation testing. * Penetration testing. * Security testing. |

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

| **Sr. no.** | **SDLC (Software Development Life Cycle)** | **STLC (Software Testing Life Cycle)** |
| --- | --- | --- |
| 1 | SDLC focuses on building a product. | STLC is focuses on testing or product. |
| 2 | SDLC is a parent process. | STLC is a child of SDLC process. |
| 3 | SDLC phases are completed before testing. | STLC phase’s starts after SDLC phases are completed. |
| 4 | SDLC is building a product as user requirement. | STCL is ensuring the product is working as expected. |
| 5 | End goal is to deploy a high quality product to user. | End goal s to finding and fixing the bugs / defects. |

* **What is the difference between test scenarios, test cases, and test script?**

1. Test Scenarios is any functionality that can be tested.
2. Test case involves set of steps, condition and input which can be used while performing the testing task.
3. Test Script is specified the sequence of action for a test.

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

Test plan is a high level document in which how to perform testing is described.

**A test plan will include the following,**

* Introduction to the Test Plan document.
* Assumptions when testing the application.
* List of test cases included in testing the application.
* List of features to be tested.
* What sort of Approach to use when testing the software.
* List of Deliverables that need to be tested.
* The resources allocated for testing the application.
* Any Risks involved during the testing process.
* A Schedule of tasks and milestones as testing is started.
* **What are the different Methodologies in Agile Development Model?**

There are mostly two types of different methodologies use in agile development model,

1. Scrum:- SCRUM is an agile development method which concentrates particularly on how to manage tasks within a team based development environment. Basically, Scrum is derived from activity that occurs during rugby match.
2. eXtreme Programming :- This is a light weight agile testing methodology in which development and testing happen in parallel. Business requirements are gathered in terms of stories.

* **Explain the difference between Authorization and Authentication in Web testing.**

Authorization is accessibility to pages through permission not given.

Authentication is accepting an invalid username/password.

* **What are the common problems faced in Web testing?**

The tests performed on these types of applications would be,

* Usability Testing.
* GUI Testing means User Interface Testing.
* Functionality Testing.
* Security Testing
* Browser Compatibility Testing.
* Performance Testing.
* Load Testing.
* Stress testing.
* Interoperability Testing / Intersystem Testing.
* Volume Testing means Storage and Data Volume Testing.
* Database Testing means SQL Queries.