**Name: - Prakash Patel**

**Mo.: - 9265654953**

**Mail id: - Prakash.sparton@gmil.com**

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# ❖ Subject: - Module 2 Assignment

**Que. 1 - What is software testing?**

**Ans**. Software testing is process used to identify the correctness completeness and quality of devloped computer sofwer

**Que. 2 - What is exploratory testing?**

**Ans**. Exploratory testing is a directed from requirement and exploring during testing.

**Que. 3 - What is traceability matrix?**

**Ans.** Traceability matrix is able to trace back from every system component to the original system requirements that cause its presence.

**Que. 4 - What is boundary value testing?**

**Ans.** Boundary value testing is a type of software testing in which tests are designed to include values at the boundary. If the input data is used within the boundary value limits then it is called positive testing. If the input data picked outside of the boundary limits then it is called negative testing.

**Que. 5 – What is equivalence partitioning testing?**

**Ans.** Equivalence partitioning testing is software testing techniques which divides the input data into many partitions. Value from each partition must be tested at least once.

**Que. 6 - What is integration testing?**

**Ans.** Integration testing is that in which different types of units, modules and components of the software application are tested as a combine entity.

**Que. 7 - What determines the level of risk?**

**Ans.** The level of risk determines by following points.

1) Tight timelines, 2) Undefined project scope, 3) Insufficient resources, 4) Continuously changing requirements, 5) Product complexity, 6) Change in market strategy, 7) Customer dissatisfaction etc.

**Que. 8 - What is alpha testing?**

**Ans.** Alpha testing is type of software testing it is performed at software development site by the software developers and it is not open to market and publicit is performed for the software application or the project, it is used in virtual environments.

**Que. 9 - What is beta testing?**

**Ans.** Beta testing is type of software testing it is performed by the customer at the customer site, it is usually open to the market and public, it is usually performed for the software product and also it is used in real time environments.

**Que. 10 – What is component testing?**

**Ans.** Component testing is also called unit testing. Component testing is a type of software development process in which is smallest testable part of the software application called unit.

**Que. 11 - What is functional system testing?**

**Ans.** it is the specify the requirement that the system must perform.

**Que. 12 – What is non-functional system testing?**

**Ans.** it is that testing those requirements that do not relate to functionality.

**Que. 13 – What is GUI testing?**

**Ans.** GUI testing means graphics user interface testing. GUI testing is a software testing type that checks the graphical user interface of the software. The main purpose of the GUI testing is to ensure that the functionalities of the software application work as per the specification by checking screen and controls like menus, buttons, icons etc.

**Que. 14 – What is Adhoc testing?**

**Ans.** Adhoc testing is the type of informal testing with the main aim to the break the system to find the defects.

**Que. 15 – What is white box testing and list the types of white box testing?**

**Ans.** White box testing is also called structure based techniques, glass box testing or open box testing. White box testing is testing based on the analysis of the internal structure of the system. White box testing is mainly concentrating on how the software does it. It is investigation all the internal logic and structure of the code.

- Types of white box testing.

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

**Que. 16 – What is black box testing? What are the different black box testing techniques?**

**Ans.** Black box testing is either functional or non-functional without reference to internal structure of system.

- Different types of black box testing techniques are follows.

1) Equivalence partitioning, 2) Boundary value analysis, 3) Decision table, 4) State transition testing, 5) Use case testing.

**Que. 17 – Mention what are the categories of defects?**

**Ans.** There are five types of defects are following.

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

**Que. 18 – Mention what bigbang testing is?**

**Ans.** Bigbang testing is all components integrated simultaneously after which everything is tested as a whole. The main advantages of bigbang testing is that everything is finished before integration testing start and it is convenient for small systems.

**Que. 19 – What is the purpose of exit criteria?**

**Ans.** Purpose of exit criteria are. 1) All the high priority bugs are fixed and closed, 2) Executed test case documented, 3) Throughness measure, 4) Cost and time constraints, 5) Percentage of tests run without incident, 6) Number of faults remaining etc.

**Que. 20 – When should "Regression testing" be performed?**

**Ans.** Regression testing should be performed after the developers adds new functionality to the software application and to check the critical functionality of the application is working fine and no further issue are introduced due to this changes.

**Que. 21 – What is 7 key principles? Explain in detail?**

**Ans.** General 7 key principle of testing are following.

1)Testing shows presence of defect, 2) Exhaustive testing is impossible, 3) Early testing, 4) Defect clustering, 5) The pesticide paradox, 6) The testing is context dependence, 7) Absence of error fallacy.

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

2) Exhaustive testing is impossible: - Decided all the combination of inputs and pre-condition are not possible to perform.

3) Early testing: - The testing should start as early as possible in the software development life cycle and should be focused on defined objectives.

4) Defect clustering: - A small number of module contains the most of the defects discovered during pre-release condition.

5) The pesticide paradox: - If the same number of test case testing over and over again it will not find any new defects.

6) The testing is context dependence: - Testing is basically context dependence. Different kind of sites are tested differently. For example, healthcare site, E-commerce site, safety site etc.

7) Absence of error fallacy: - Does not full filled customer needs, expectation then finding and fixing the defects does not help.

**Que. 22 – Difference between QA v/s QC v/c Tester.**

**Ans.**

| QA | QC | Tester |
|---|---|---|
| It is called Quality Assurance. | It is called Quality Control. | - |
| QA is a subset of STLC. (Software testing life cycle) | QC is a subset of quality assurance. | Testing is the subset of quality control. |
| It is a preventive activities. | It is a corrective activities. | It is a preventive activities. |
| It is process oriented activities. | It is product oriented activities. | It is a product oriented activities. |
| It is focus on process and procedure rather than conducting actual testing. | It is focus on actual testing by the findings defects and implementation process and procedure. | It is focus on actual testing. |

**Que. 23 – Difference between smoke and sanity testing.**

**Ans.**

| Smoke | Sanity |
|---|---|
| Smoke testing is that after the software build to ascertain that the critical functionality is working fine. | After the software build with minor code change sanity testing is performed to ascertain that the bug has been fixed and no further issue introduced due to these changes. |
| It is performed by developers and tester. | Sanity testing is usually performed by the tester. |
| Smoke testing is a subset of regression testing. | Sanity testing is subset of acceptance testing. |
| Smoke testing usually documented and scripted. | Sanity testing is not documented and unscripted. |
| Smoke testing exercise entire system end to end. | It exercise the particular component of the entire system. |
| Smoke testing is like general health checkup. | Sanity testing is like specialized health checkup. |

**Que. 24 – Difference between verification and validation.**

**Ans.**

| Verification | Validation |
|---|---|
| Verification coming before the coding. | Validation coming after the coding. |
| Verification does not involve executing the code. | Validation usually involve executing the code. |
| Verification is static practice. | Validation is dynamic practice. |
| Verification is finding defects with checking documents and files. | Validation is finding defects with executing computer program. |
| Verification includes different developments level. | Validation includes different testing levels. |
| Verification levels:- User requirements, System requirements, Technical specification, Program specification. | Validation levels:- Unit testing, Integration testing, System testing, Acceptance testing. |

**Que. 25 – Explain types of performance testing.**

**Ans.** Software performance testing is a means of quality assurance. The goal of performance testing is not to find a bug but also to eliminate the bottleneck.

- The focus of performance testing in mainly three parameters: 1) Speed; 2) Scalability; 3) Stability.
- There are six types of performance testing. 1) Load testing, 2) Stress testing, 3) Volume testing, 4) Scalability testing, 5) Endurance testing, 6) Spike testing

1) Load Testing: - It is a performance testing to check the system behavior under load. This testing help to determines how the system behaves when the multiple users access it simultaneously.
    - Load testing usually identifies following steps: -
    - The maximum operating capacity of an application.
    - Sustainability of application with respect to peak user load.

- It is a type of non-functional testing. Load testing commonly used for the client/web application- both intranet and internet.

2) Stress Testing: - Stress testing is also known as endurance testing.

- To check out how the system behaves under extreme load and how it recovers from failure.
- Stress system is done to make sure that system would not crash in crunch situations.
- Stress testing is performed to test the robustness of the system.
- Stress testing tries to break the system by testing with over helming data.
- Example: - application component fail to responds.
- Stress testing tools: - 1) Neo load and 2) App perfect.

**Que. 26 – What is error, defect, bug and failure?**

**Ans.** A mistake in coding is called error, Error found by tester is called defects, Defects accepted by development team then it is called bug, Build does not meet the requirements then it is called failure.

**Que. 27 – Difference between priority and severity.**

**Ans.**

| **Priority** | **Severity** |
|---|---|
| Priority is relative and business focused. | Severity is absolute and customer focused. |
| Priority has defined the order in which the developers should resolved a defect. | Severity is defined that which degree the defect impact on the operation of product. |
| Priority categorized into three types..1)High, 2) Medium, 3) Low. | Severity categorized into five types..1) Critical, 2) Major, 3) Moderate, 4) Minor, 5) Cosmetic. |
| Its value changes from time to time. | Its value doesn't change time to time. |
| Priority value is subjective. | Severity value is objective. |

**Que. 28 – What is bug life cycle?**

**Ans.** Bug life cycle in software testing is the specific sets of status that defects goes through in its entire life. The main purpose of this cycle is easily co-ordinate and communicates current status of the defect which change to various assignees and make the defect fixing proper systematic and efficient.

**Que. 29 – Explain the difference between functional testing and non-functional testing.**

**Ans.**

| **Functional testing** | **Non-functional testing** |
|---|---|
| Functional testing is based on to analysis of the specification of the functionality of the system. | Non-functional testing is testing the attributes of the component that do not related to the functionality for example reliability, Maintainability, Interoperability, Portability, Usability. |
| Manual and automation testing is used for functional testing. | Tools will be effective to use for non-functional testing. |
| Business requirements are the input of functional testing. | Performance parameters like speed and scalability is input for non-functional testing. |
| Easy to do manual testing. | Tough to do manual testing. |
| Functional testing types:- Unit testing, integration testing, Black box testing, White box testing, Smoke testing, Sanity testing, Regression testing etc. | Non-functional testing type:- Load testing, Security testing, migration testing, Performance testing, compatibility testing, Volume testing, Stress testing etc. |

**Que. 30 – To create HLR and test case of**

1) **Face book and Instagram only first page.**
2) **Facebook Login Page: https://www.facebook.com/**

**Ans.** Please find Attached File Q 30(1), Q 30(2).

**Que. 31 – What is the difference between the STLC (Software Testing Life Cycle) and SDLC (Software Development Life Cycle)?**

**Ans.**

| SDLC | STLC |
|---|---|
| It means Software development lifecycle. | It means Software Testing lifecycle. |
| It is mainly related to the software developments. | It is mainly related to the software testing. |
| In SDLC development team makes the plan and design based on the requirements. | In STLC software testing team makes the plan and design. |
| It helps developing good quality software. | It helps making the software defect free. |
| SDLC involves six phases. | STLC involves five phases. |
| Phases: - 1) Requirement collection, 2) Analysis, 3) Design, 4) Implementation, 5) Testing, 6) Maintenance. | Phases: - 1) Test planning and controlling, 2) Test analysis and design, 3) Test implementation and execution , 4) Evaluating exit criteria and reporting, 5) Test closure activities. |

**Que. 32 – What is the difference between test scenarios, test cases, and test script?**

**Ans.**

| Test scenario | Test case | Test script |
|---|---|---|
| It is a process to test an application with all possible ways. | It is a step by step by procedure that is used to test an application | It is a set of instructions to test an application automatically. |
| The term Test Scenario is used in the manual testing environment. | The term Test Case is used in the manual testing environment. | The term Test Script is used in automation testing environment. |

| Test scenario | Test case | Test script |
|---|---|---|
| It is done manually. | It is done manually. | It is done by scripting format. |
| It is developed in the form of templates. | It is developed in the form of templates. | It is developed in the form of scripting. |
| Is used to test an application. | Is used to test an application. | Is used to test an application. |
| It is the base form to test an application in sequence. | It is the base form to test an application in sequence. | Once we develop, the script will run it multiple times until the requirement is changed. |
| Test case template includes Test case ID, Test Data, Test steps, Actual results, Expected results etc. | Test case template includes Test case ID, Test Data, Test steps, Actual results, Expected results etc. | In Test Script we can use different commands to develop script. |

**Que. 33 – Explain what Test Plan is? What is the information that should be covered?**

**Ans.** Test plan: - A documents describing the scope, Approach, resources and schedule of intended test activities is called test plan.

- Test planning steps: -
- Determining the scope and risk and identifying the objectives of the testing.
- Defining the overall approach of testing including definition of test plan, entry and exit criteria etc.
- Integrating and coordinating the testing activities into software lifecycle.
- Scheduling test analysis and design activities.
- Scheduling test implementation, Execution and evaluating.
- Assigning resources for different activities defined.

**Que. 34 – What are the different Methodologies in Agile Development Model?**

**Ans.** There are mainly two types of methodologies in agile developments.

1) Scrum and 2) eXtreme programming (XP)

- Other agile methodologies are: -1) Dynamic system development method, 2) Test driven development, 3) feature driven development, 4) xBreed, 5) Crystal.

**Que. 35 – Explain the difference between Authorization and Authentication in Web testing.**

**Ans.**

| **Authorization** | **Authentication** |
|---|---|
| In the authentication process, the identity of users are checked for providing the access to the system. | While in authorization process, a the person's or user's authorities are checked for accessing the resources. |
| In the authentication process, users or persons are verified. | While in this process, users or persons are validated. |
| It is done before the authorization process. | While this process is done after the authentication process. |
| It needs usually the user's login details. | While it needs the user's privilege or security levels. |
| Authentication determines whether the person is user or not. | While it determines **What permission does the user have?** |
| The user authentication is visible at user end. | The user authorization is not visible at the user end. |
| The user authentication is identified with username, password, face recognition, retina scan, fingerprints, etc. | The user authorization is carried out through the access rights to resources by using roles that have been pre-defined. |
| Example: Employees in a company are required to authenticate through the network before accessing their company email. | Example: After an employee successfully authenticates, the system determines what information the employees are allowed to access. |

**Que. 36 – What are the common problems faced in Web testing?**

**Ans.** 1) Cross browser compatibility, 2) Responsiveness, 3) Cross device compatibility, 4) Integration testing, 5) Security, 6) Performance testing, 7) Application getting slow, 8) usability testing, 9) Entry and exit criteria, 10) Checking the standard and compliance, 11) Firewall, 12) accessibility testing, 13) Project deadline, 14) Web service request, 15) User input validation etc.