**Module-2(Manual Testing)**

1. what is error?

=> A mistake in coding is called error.

2.what is defect?

=> error found by tester is called defect.

3.what is bug?

=> defect accepted by development team then it is called bug.

4.what is failure?

=> build does not meet the requirement then it is called failure.

5.what is traceability matrix?

=> the protect against changes you should be able to track back from every system component to the original req. That caused its present.

6.what is boundary value testing?

=> a black box test design technique in which test case are design to execute representative from boundary value analysis.

7.what is equivalence partitioning testing?

=> Equivalence Partitioning is a black box test design technique in which test case are design to execute representative from Equivalence Partitioning.

8.what is integration testing?

=> testing the data flow between two modules is called integrating testing.

9.what is component testing?

=> the testing of individual software components.

10.what is functional system testing?

=> Functional System Testing : A requirement that specifies a function that a system or system component must perform

11. 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.

=> Non-functional testing includes, but is not limited to, performance testing, load testing, stress testing, usability testing, maintainability testing, reliability testing and portability testing.

12. 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.

=> Structure-based testing technique is also known as ‘white-box’ or ‘glass-box’ testing technique because here the testers require knowledge of how the software is implemented, how it works.

13. 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:

⚫ Equivalence partitioning

⚫ Boundary value analysis

⚫ Decision tables

⚫ State transition testing

14. Mention what bigbang 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.

=> The major disadvantage is that in general it is time consuming and difficult to trace the cause of failures because of this late integration.

=> Here all component are integrated together at once, and then tested.

15. What is 7 key principles? Explain in detail?

=> 1.Testing shows present of defects

-testing shows that of defect are present.but can not prove that there are no defects

-testing reduces that probability of undercovered defect remaining in the software but even if not defect are found it is not a proof of correctness

-we test to find fault

2.exhaustive testing is impossible

-testing everything is including all combination of input and precondition is not possible

-Require anormous resources

-is too expensive

-takes to long

-it is therefore impractical

3.early testing

-testing activities should start as early as possible in the development life cycle

4.defect clustering

-defect are not evently spread in a system

-They are clustered

-in orther words most defect found during testing are usually confirmed to a small no of modules

- similarly most operational failure of a system are usually confirmed to a small no of module

5.pesticide paradox

-if the same test are repeated over and over again eventually the same test cases will no longer find any new defects

-to overcome this pesticide paradox the test cases need to be regularly review and revisited for potentially find more defects

6.testing the context dependent

-different kind of sites are tested differently

-safety- critical software is tested differently from an e commerce site

7.absence of errors fallacy

-even after defects have been resolved it may still be unusable and/or does not fulfil users need and expectations

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

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| S.N. | 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 requirements. | Activities which ensure the verification of developed software with respect to documented (or not in some cases) requirements. | Activities which ensure the identification of bugs/error/defects in the Software. |
| 2 | Focuses on processes and procedures rather than conducting actual testing on the system. | Focuses on actual testing by executing 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 | Preventive activities. | It is a corrective process. | It is a preventive process. |
| 5 | It is a subset of Software Test Life Cycle (STLC). | QC can be considered as the subset of Quality Assurance. | Testing is the subset of Quality Control. |

17. Difference between verification and Validation

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| S.N. | Verification | Validation |
| 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. | The process of evaluating software during or at the end of the development process to determine whether it satisfies specified business requirements |
| 2 | To ensure that the product is being built according to the requirements and design specifications. In other words, to ensure that work products meet their specified requirements. | To ensure that the product actually meets the user’s needs, and that the specifications were correct in the first place. In other words, to demonstrate that the product fulfills its intended use when placed in its intended environment. |
| 3 | Are we building the product right? | Are we building the right product? |
| 4 | Plans, Requirement Specs, Design Specs, Code, Test Cases | The actual product/software. |
| 5 | Reviews,Walkthroughs,Inspections | Testing |

18. Explain the difference between Functional testing and NonFunctional testing

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| S.N. | Functional testing | Non-functional testing |
| 1 | A requirement that specifies a function that a system or system component must perform | Testing the attributes of a component or system that do not relate to functionality, e.g. reliability, efficiency, usability, interoperability, maintainability and portability. |
| 2 | Functional testing is executed first | Non functional testing should be performed after functional testing |
| 3 | Manual testing or automation tools can be used for functional testing | Using tools will be effective for this testing |
| 4 | Business requirements are the inputs to functional testing | Performance parameters like speed , scalability are inputs to non-functional testing. |
| 5 | Functional testing describes what the product does | Nonfunctional testing describes how good the product works |
| 6 | Easy to do manual testing | Tough to do manual testing |
| 7 | Types of Functional testing are ∙ Unit Testing ∙ Smoke Testing ∙ Sanity Testing ∙ Integration Testing ∙ White box testing ∙ Black Box testing ∙ User Acceptance testing ∙ Regression Testing | Types of Nonfunctional testing are ∙ Performance Testing ∙ Load Testing ∙ Volume Testing ∙ Stress Testing ∙ Security Testing ∙ Installation Testing ∙ Penetration Testing ∙ Compatibility Testing ∙ Migration Testing |

19.What is exploratory testing?

=>exploratory testing is often described as simultaneous learing,test design & execution.

20.What determines the level of risk?

=> a factor that could result in future negative consequences usually expressed as impack and likelihood.

=>types of risks. Project risks & product risks

21.What is adhoc testing?

=>when a software testing performed without proper planning and documentation its called ad-hoc testing.

22.What is the purpose of exit criteria?

=>Defines the items that must be completed before testing can be concluded.

=>In an ideal world you will not enter next stage until the exit criteria for the previous stage is met but practically this is not always possible.

23.When should regression testing be performed?

=>Regression testing is necessary after any feature (or application) enhancement, bug fix, or configuration changes. For example, when developers add a new widget to an application.

24.different between smoke & sanity?

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| SRNO | SMOKE TESTING | SANITY TESTING |
| 1 | check critical functionality | check new functionality |
| 2 | it is done in initial stage | it is done after 30 build |
| 3 | it is check stability | it check sanity/relationality |
| 4 | part of acceptance testing | part of regression testing |
| 5 | general health checkup | advance health checkup |
| 6 | done by tester or developer | done by tester |
| 7 | it check system end to end | it check only a particular function of entire system |
| 8 | 20 test cases it should take 30 min to test sanity testing |  |

25.Explain types of performance testing?

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26.What is bug life cycle?

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27.Mention what are the categories of defects?

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28.Difference between priority or severity?

29.What is difference between SDLC & STLC?

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| **SDLC** | **STLC** |
| SDLC is mainly related to software development. | STLC is mainly related to software testing. |
| Besides development other phases like testing is also included. | It focuses only on testing the software. |
| SDLC involves total six phases or steps. | STLC involves only five phases or steps. |
| In SDLC, more number of members (developers) are required for the whole process. | In STLC, less number of members (testers) are needed. |
| In SDLC, development team makes the plans and designs based on the requirements. | In STLC, testing team(Test Lead or Test Architect) makes the plans and designs. |
| Goal of SDLC is to complete successful development of software. | Goal of STLC is to complete successful testing of software. |
| It helps in developing good quality software. | It helps in making the software defects free. |
| SDLC phases are completed before the STLC phases. | STLC phases are performed after SDLC phases. |
| Post deployment support , enhancement , and update are to be included if necessary. | Regression tests are run by QA team to check deployed maintenance code and maintains test cases and automated scripts. |
| Creation of reusable software systems is the end result of SDLC. | A tested software system is the end result of STLC. |

30.What is difference between test scenarios, test cases, test script?

=> test scenarios:-Test scenarios are one liner but it is associated with multiple test cases.

=>test cases:-Test cases are set of positive & negative executable steps of test scenario which has a set of pre-condition, test data, expected result, actual result and post-condition.

=>test script:-A set of sequential instruction that detail how to execute a core business function.

31.What is alpha testing?

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32.What is betatesting?

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33.What is load testing?

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34.What is stress testing?

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35.Explain what test plan is? What is the information that should be covered?

=> test planning in STLC is a phase in which a senior QA manager determines the test plan strategy along with efforts and cost estimates for the project.

=>Activities in requirements phase testing.

-preparation of test plan/strategy document for various types of testing

-test tool selection

-test effort estimation

-resource planning and determining role and responsibilities

-training requirements

=>deliverables of requirements phase testing

-test plan/test strategy document

-effort estimation document

36.Bug categories are?

=>

37.Advantage of bugzilla?

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38.Explain the different between authorization and authentication in web testing .What are the common problems faced in web testing?

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| Authentication | Authorization |
| [In the authentication process, the identity of users are checked for providing the access to the system.](https://www.geeksforgeeks.org/authentication-in-computer-network/) | [While in authorization process, a the person’s or user’s authorities are checked for accessing the resources.](https://www.geeksforgeeks.org/what-is-aaa-authentication-authorization-and-accounting/) |
| 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?** |
| Generally, transmit information through an ID Token. | Generally, transmit information through an Access Token. |

=>Cross browser compatibility, responsiveness, cross device compatibility, security, integration testing, performance testing, application getting slow, usability testing, entry and exit points, checking the standards and compliance, firewalls, accessibility testing, project deadline, user experience, web service requests, user input validation.