**Module ­-2**

1. **What is software testing ?**

**Ans . software testing is process used to identify the correctness , completeness , and quality of developed computer software .**

1. **What is exploratory testing ?**

**Ans. Exploratory testing is an approach to software testing that is often described as simultaneous learning , test design , and execution.**

**It focus on discovery and relies on the guidance of the individual tester to uncover defects that are not easily covered in the scope of other tests.**

1. **What is traceability matrix ?**

**Ans. Traceability matrix is the ability to trace tests forward and backward**

**Through the development lifecycle.**

**Test cases are traced forward to test runs. And test runs are traced forward to issues that are traced forward to issues that need to be fixed (or are traced forward to a passed test case).**

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

**Ans. Boundary value analysis is a methodology for designing test case that concept rates software testing effort on cases near the boundary value range.**

**At those point when input value change from valid to invalid errors are most likely to accrue.**

**Boundary value analysis is batter than equivalence partitioning .**

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

**Ans. Equivalence partitioning ( EP ) is a software testing technique that divides the input data of a software unit into partitions of equivalent data from which test cases can be derived.**

1. **What is integration testing ?**

**Ans. Upon completion of unit testing , the unit or modules are to be integration testing .**

**The purpose of integration testing is to verify the functional , performance , reliability .**

**Types of integration testing : big bang , hybrid integration**

1. **What is determine the level of risk ?**

**Ans.**

1. **What is alpha testing ?**

**Ans. Alpha testing is performed by highly skilled tester at on site . this is in house testing in which development team is not involved.**

**Application is tested before releasing in beta version . the bonus of this testing is to simulate real users by using black box and white box techniques.**

1. **What is beta testing ?**

**Ans. Beta testing is performed by real users . no tester is requirement for testing . its also called as external user acceptance testing .**

**Beta version is released so that user can use the application and provide correct feedback . quality is improved as per the feed back of the user for application.**

1. **What is component testing ?**

**Ans. Component testing , also knows as program or module testing , is done after unit testing . in this type of testing those test object can be tested independently as a component without integrating with other components**

**e.g. modules ,classes , objects , and programs. This testing is done by the development team.**

**11. what is functional system testing ?**

**Ans. Functional testing is a type of testing that seeks to establish whether each application feature works as per the software requirement.**

**Each function is compared to the corresponding requirement to ascertain whether its output is consistent with the end user’s expectations.**

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

**Ans. Non – functional testing assesses application properties that aren’t critical to functionality but contributes to the end- user experience.**

**Performance and reliability under load aren’t functional components of a software system but can certain make or break the user experience.**

1. **What is GUI testing ?**

**Ans. Graphical user interface (GUI) testing is the process of testing the system GUI of the system under test . GUI testing involves checking the screen with the control like menu , button , icon , and all types of bars tool bar, menu bar , dialog box and window.**

1. **What is ADHOC testing ?**

**Ans. ADHOC testing is an informal testing type with an aim to brock the system . this testing is performed if knowledge of tester is the system under test is very high .**

**Tester randomly test the application without any test cases or any business requirement document.**

**Types : buddy testing**

**Pair testing**

**Monkey testing**

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

**Ans. White box testing is an approach that allows tester to inspects and verify the inner working of a software system. Its code, infrastructure , and integration with external system .**

**Types : statement coverage**

**Branch coverage**

**Path coverage**

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

**Ans. Black box testing involves testing a system with no prior knowledge of its internal working . a tester provides an input , and observe the output generated by the system under test.**

**Types : decision table testing**

**All – pairs testing**

**Equivalence portioning**

**Boundary value analysis**

**Cause effect graph**

**Error guessing**

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

**Ans. 1 arithmetic defects**

**2 logical defect**

**3 syntax defect**

**4 multithreading defects**

**5 interface defects**

**6 performance defects**

1. **Mention what BIGBANG testing is ?**

**Ans. Big bang integration is an integration testing strategy all units are linked at once , resulting in a complete system.**

**When this type of testing strategy is adopted , it is difficult to isolate any errors found , because attention is not paid to verifying the interface across individual units.**

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

**Ans. Exit criterion is used to determine whether a given test activity has been completed or not .**

**Exit criteria can be defined for all of the activities right from planning , specification and execution . exit criteria should be part of test plan and decided in planning stage .**

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

**Ans. Whenever a new feature is developed , or when an existing feature is improved or if there are any UI updates made, ideally there is a need to perform software regression testing.**

1. **What is 7 key principal ? explain in detail ?**

**Ans. 7 key principal :**

1. **Testing shows presence of defects**
2. **Exhausted testing is impossible**
3. **Early testing**
4. **Defect clustering**
5. **The pesticide paradox**
6. **Testing is context depended**
7. **Absence of error fallacy**
8. **Testing shows presence of defects**
9. **Testing shows presence of defects**
10. **Testing shows presence of defects : as we find more defect ,the probability of undiscovered defects remaining in a system reduces . however testing can not prove that there are no defect present.**
11. **Exhausted testing is impossible : testing everything including all combination of inputs and precondition is not possible. that is we must priorities our testing effort using a risk based approach.**
12. **Early testing : testing activities should start as early as possible in the software or system in life cycle , requirement gathering , design**
13. **Defect clustering : most defects found during testing are usually in to a small number of modules . an important consideration in test priority .**
14. **The pesticide paradox : regularly reviewed and revised , and new and different test need to be written to exercise different parts of the software or system to potentially find more defects .**
15. **Testing is context depended : different kind of sites are tested differently.**
16. **Absence of error fallacy : at the time of testing , defect were not sound in the software , doesn’t mean that the software is ready to be shipped.**
17. **Difference between QA v/s QC v/s TESTER ?**

**Ans.**

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

**Ans. Different**

**Smoke testing : 1. Check the critical functionality.**

**2. it is done in initial stage**

**3. it check the stability**

**4. part of acceptance testing**

**5. general health check up**

**6. done by tester and developer**

**7. it check the system end - to – end .**

**Sanity testing : : 1. Check the new functionality.**

**2. it is done after 30 build**

**3. it check the sanity / rationality .**

**4. part of regression testing**

**5 advance health check up**

**6. done by only tester**

**7. it check only a particular functionality of system .**

1. **different between verification and validation ?**

**ans.**

1. **Explain types of performance testing ?**

**Ans . types of performance testing :**

* **Load testing – checks the application’s ability to perform under anticipated user loads. The objective is to identify performance bottlenecks before the software application goes live.**
* **Stress testing – involves testing an application under extreme workloads to see how it handles high traffic or data processing. The objective is to identify the breaking point of an application.**
* **Endurance testing – is done to make sure the software can handle the expected load over a long period of time.**
* **Spike testing – tests the software’s reaction to sudden large spikes in the load generated by users.**
* **Volume testing – Under Volume Testing large no. of. Data is populated in a database, and the overall software system’s behavior is monitored. The objective is to check software application’s performance under varying database volumes.**
* **Scalability testing – The objective of scalability testing is to determine the software application’s effectiveness in “scaling up” to support an increase in user load. It helps plan capacity addition to your software system.**

1. **What is error , defect , bug and failure ?**

**Ans. Error : An error is a mistake made by human that leads to discrepancy between the actual and the expected result.**

**Defect : A defect is a problem in the functioning of a software system during testing. ISTQB defines a defect as “A flaw in a component or system that can cause the component or system to fail to perform its required function, e.g., an incorrect statement or data definition.”**

**Bug : A bug is a flaw in a software system that causes the system to behave in an unintended manner.**

**Failure : A failure is the inability of a software system to perform its operations within the specified performance benchmark. As per ISTQB, “a defect, if encountered during execution, may cause a failure of the component or system”.**

1. **Difference between priority and severity ?**

**Priority severity**

|  |  |
| --- | --- |
| **Severity is a parameter to denote the impact of a particular defect on the software.** | **Priority is a parameter to decide the order in which defects should be fixed.** |
| **Severity means how severe defect is affecting the functionality.** | **Priority means how fast defect has to be fixed.** |
| **Severity is related to the quality standard.** | **Priority is related to scheduling to resolve the problem.** |
| **Testing engineer decides the severity level of the defect.** | **Product manager decides the priorities of defects.** |
| **Its value is objective.** | **Its value is subjective.** |

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

**Ans. Bug Life Cycle in software testing is the specific set of states that defect or bug goes through in its entire life. The purpose of Defect life cycle is to easily coordinate and communicate current status of defect which changes to various assignees and make the defect fixing process systematic and efficient.**

1. **Explain the difference between functional testing and non-functional testing ?**

* **Ans. Functional testing verifies each function/feature of the software whereas - Non Functional testing verifies non-functional aspects like performance, usability, reliability, etc.**
* **Functional testing can be done manually whereas- Non Functional testing is hard to perform manually.**
* **Functional testing is based on customer’s requirements whereas -Non Functional testing is based on customer’s expectations.**
* **Functional testing has a goal to validate software actions whereas- Non Functional testing has a goal to validate the performance of the software.**
* **A Functional Testing example is to check the login functionality whereas -Non Functional testing example is to check the dashboard should load in 2 seconds.**

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

* **Ans. SDLC defines all the standard phases which are involved during the software development process, whereas the - STLC process defines various activities to improve the quality of the product.**
* **SDLC is a Development Life Cycle, whereas STLC is a Testing Life Cycle.**
* **In SDLC, the development team creates the high and low-level design plans, while In STLC, the test analyst creates the System, Integration Test Plan**
* **In SDLC, real code is developed, and actual work takes place as per the design documents, whereas in STLC testing team prepares the test environment and executes test cases.**
* **The SDLC life cycle helps a team complete the software’s successful development, while the STLC phases only cover software testing.**

1. **What is difference between test scenario , test case, and test script ?**

**Ans**

|  |  |  |
| --- | --- | --- |
| **Test scenario** | **Test case** | **Test script** |
| **Is more focused on what to test** | **Is focused on what to test and how to test** | **Is focused the expected result** |
| **Is any functionality that can be tested** | **Is a set of actions executed to verify particular feature or functionality** | **Is a set of instruction to test an ap automatically** |
| **Is more focused on what to test** | **Is focused on what to test and how to test** | **Is focused on the expected result** |

1. **What is priority ?**

**Ans. Priority is defined as the order in which a defect should be fixed. Higher the priority the sooner the defect should be resolved.**

**Defects that leave the software system unusable are given higher priority over defects that cause a small functionality of the software to fail.**

1. **What is severity ?**

**Ans. Priority defines the order in which we should resolve a defect. We fix it now , or can it wait ? this priority status is set by the tester to the developer mentioning the time frame to fix the defect. If high priority is mentioned then developer has to fix it at the earlier . the priority status is set based on the customer requirement**

1. **Bug categories are..**

* **Ans. Performance bugs**
* **Security bugs**
* **Unit level bugs**
* **Functional bugs**
* **Usability bugs**
* **Syntax error**
* **Compatibility bugs**
* **Logic bugs**

1. **Difference between priority and severity ?**

**Ans.**

|  |  |
| --- | --- |
| **Severity is a term that denotes how severely a defect can affect the functionality of the software.** | **Priority is a term that defines how fast we need to fix a defect.** |
| **Severity is basically a parameter that denotes the total impact of a given defect on any software.** | **Priority is basically a parameter that decides the order in which we should fix the defects.** |
| **Severity relates to the standards of quality.** | **Priority relates to the scheduling of defects to resolve them in software.** |
| **The value of severity is objective.** | **The value of priority is subjective.** |
| **The value of Severity changes continually from time to time** | **The value of Priority changes from time to time.** |

1. **What are the different methodology in agile development model ?**

**Ans. 1. Kanban**

**2. Scrum**

**3. extreme programming**

**4. crystal**

**5. dynamic system development method ( DSDM )**

**6. feature driven development ( FDD )**

**7. lean software development ( LSD )**

**8. SCALED AGILE FRAMWORK**

**37. when to used usability testing ?**

**Ans. If possible, usability testing can and should be conducted on the current iteration of a product before beginning any new design work, after you’ve begun the strategy work around a brand new site or app. This will quickly identify areas for opportunity, and reduce the amount of assumptions your design team will make with regard to what the user wants. Additionally, after the usability tests analysis, the team should have the ability to pinpoint the steps needed  to achieve the project goals with as little disruption as possible**