1. ***What is 7 key principles? Explain in detail?***

* **Testing shows presence of defects**: Testing can show that defects are present but cannot prove that there are no defects.
* **Exhaustive testing is impossible**: It means the software can never test at every test cases. It can test only some test cases and assume that software is correct and it will produce the correct output in every test cases.
* **Early testing**: The defect detected in early phases of SDLC will very less expensive. Testing activities should start as early as possible in the software development life cycle and should be focused on defined objectives.
* **Defect clustering**: Small number of module can contain most of the defects. Defects are not evenly spread in a system, they are clustered.
* **Pesticide paradox**: Repeating the same test cases again and again will not find new bugs. It is necessary to review the test cases and add or update test cases to find new bugs.
* **Testing is context dependent**: Testing approach depends on context of software developed. Different types of software need to perform different types of testing. The testing of the e-commerce site is different from testing of the android application.
* **Absence of error fallacy**: If a built software is bug free but it does not follow the user requirement then it is unusable. It is not only necessary that software is bug free but it is mandatory to fulfil the customer requirements.

1. ***What is Error, Defect, Bug and failure?***

* **Error**: A mistake in the application identified at the time of development is known as Error. Due to this a developer is unable to compile or run a program successfully.
* **Defects**: Testers identify the defects while initial phase of testing. Error found by tester is called defect.
* **Bug**: Bug is an informal name specified to the defect. Defect is accepted by development team then it is called bug.
* **Failure**: Build does not meet the requirement then it is called failure.

1. ***Difference between QA v/s QC v/s Testing?***

* **QA**: Quality assurance involves in process oriented activities. It ensures the prevention of defects in the process used to make software application.
* It focuses on processes and procedure.
* It involves preventive activities.
* It is a subset of STLC.
* **QC**: Quality control involves in product oriented activities. It executes the program or code to identify the defects in the software application.
* It focuses on actual testing by executing software to identify bug/defect through implementation of procedure and process.
* It involves corrective process.
* QC considered as a subset of QA.
* **Testing**: Testing ensures the identification of bug/error/defect in the software.
* It focuses on actual testing.
* It involves product oriented activities.
* It is a preventive processes.
* Testing is the subset of QC.

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

**Verification**:

* Verification is the static testing.
* It does not include the execution of the code.
* Methods used in verification are reviews, walkthrough, inspections.
* It can find the bugs in the early stage of the development.
* Verification is done by QA team.

**Validation**:

* Validation is the dynamic testing.
* It includes the Execution of the code.
* Method used in the validation are black box testing, white box testing, non functional testing.
* Bugs could not be found by the verification process.
* Validation is executed on software code with help of testing team.

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

* To define when a test level is completed.
* All high prioritized bugs fixed and closed. Technical documents to be submitted followed by release notes.

1. ***What is Exploratory Testing?***

* We do exploratory testing when the application is ready but there is no requirement. We have to explore the application, understand completely and test it.

1. ***What is traceability matrix?***

* Traceability matrix is used to map the requirement with the test cases. Software testers are create the traceability matrix. There are three types of traceability matrix.

Forward traceability

Backward Traceability

Bi-directional traceability

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

* Boundary value testing is a methodology to design the test cases which is concentrate on near the limit of valid ranges. In this we only test the 6 parameters no need to test all the values.

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

* Treat group of inputs as equivalent and select one representative input to test them all. EP is design to minimise the number of test cases.

1. ***What is Integration testing?***

* Integration testing validates how well two or more unit of software interacts with each other .There are three ways to validate integration :

Big bang integration

Top down approach

Bottom up approach

1. ***What is component testing?***

* Testing of individual software components. The main purpose is to validate that each unit of the software performs as design. It is also called as unit testing, module testing, program testing. Component can be tested in isolation.

1. ***What is functional system testing?***

* Functional testing is the testing where the system is tested against the functional requirement or specifications. During functional testing black box testing is used in which internal logic of the application is not required.

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

* Once the application functionality is stable then we do functional testing. Testing the attribute of a component that do not relate to any functionality.

1. ***What is Adhoc testing?***

* Adhoc testing is informal testing aim to break the system. Where testing is conducted on without planning and documentation and it does not follow any specific way of execution. It is performed to check the applications functionality randomly without any test cases and any business requirement document.

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

* Equivalence partitioning
* Boundary value analysis
* Decision table
* State transition testing

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

* White box testing is deals with the internal structure and internal logic of the code. White box testing is also called structural testing, glass box testing, transparent box testing, clear box testing.

**Types:**

* + - * + Statement coverage
        + Decision coverage
        + Condition coverage
        + Multiple condition coverage
        + Decision condition coverage

1. ***Mention what bigbang testing is***?
   * + In Big bang testing all components or modules is integrated simultaneously.
2. ***Explain what Test Plan is? What is the information that should be covered.***
   * + Test plan is a document describing scope, approach, resources and schedule of intended test activities. Information that should be covered is Defining the overall approach of testing, including the definition of the test levels and entry and exit criteria.
3. ***What is the difference between the STLC (Software Testing Life Cycle) and SDLC (Software Development Life Cycle)?***

|  |  |
| --- | --- |
| * + - * + **SDLC** | * + - * + **STLC** |
| SDLC is a software development life cycle and mainly related to development. | STLC is a software testing life cycle and it is mainly related to testing. |
| In SDLC the development team creates the high level and low level design. | In STLC the test analyst create the system and integration test plan. |
| In SDLC testing phases includes unit testing of code and integration testing. | In STLC testing phase includes functional and non functional testing. |
| SDLC phases are completed before the STLC phases. | STLC perform after SDLC. |
| The goal of SDLC is successfully develop the software | The goal of STLC is complete successful testing of the software |
|  |  |

1. ***Explain the difference between Functional testing and NonFunctional testing?***

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| --- | --- |
| **FUNCTIONAL** | **NON FUNCTIONAL** |
| Functional testing is performed using functional specification | Non functional testing checks the performance, reliability, scalability. |
| Functional testing is executed first. | Non function testing should be performed after functional testing. |
| Functional testing describes what the product does. | Non functional testing describes how good the product works. |
| Easy to do manual testing | Difficult to do manual testing |

1. ***Difference between Smoke and Sanity?***

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| **Smoke** | **Sanity** |
| Smoke testing is performed to ascertain that the critical functionalities of the program is working fine. | Sanity testing is done to check the new functionality/bug have been fixed. |
| Smoke testing is performed by developers or testers. | Sanity testing is performed by testers. |
| Smoke testing is documented or scripted. | Sanity testing is not documented and unscripted. |
| Smoke testing is subset of Regression testing | Sanity testing is a subset of Acceptance testing. |

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

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| --- | --- | --- |
| Test Scenarios | Test cases | Test Script |
| A Scenario is any functionality that can be tested | Test cases involve set of steps, condition and input which can be used while performing the task | Test script is a set of sequential instruction that detail how to execute a core business function |
| Test scenarios are derived from the use cases | Test cases are derives from the test scenario |  |
| Test scenario is what to be tested | Test cases is How to be tested |  |
| Its more about documenting details | Its more about thinking and discussing details |  |

1. ***What is GUI Testing?***

* GUI testing is the process of testing the system’s GUI. GUI testing involves checking the screens with the controls like menus, buttons, icons, and all types of bars-tool bar, menu bar, dialog boxes and windows etc.

1. ***What is load testing?***

* Load testing is a kind of performance testing which determines a system’s performance under real life load conditions. This testing helps determine how the application behaves when multiple users access it simultaneously.

1. ***What is stress Testing?***

* Stress testing is used to test the stability and reliability of the system. This test determines the system on its robustness and error handling under extremely heavy load conditions.

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

* Data Quality/Database Defects
* Critical Functionality Defects
* Functionality Defects
* Security Defects
* User Interface Defects

1. ***When should "Regression Testing" be performed?***

* when the system is stable and the system or the environment changes .when testing bug-fix releases as part of the maintenance phase It should be applied at all Test Levels It should be considered complete when agreed completion criteria for regression testing have been met Regression test suites evolve over time and given that they are run frequently are ideal candidates for automation.

1. ***What is Bug Life Cycle?***

* A computer bug is an error, flaw, mistake, failure, or fault in a computer program that prevents it from working correctly or produces an incorrect result. Bugs arise from mistakes and errors, made by people, in either a program’s source code or its design.

1. ***Bug categories are***

* Security
* Database
* Functionality (Critical/General)
* UI

1. ***What is Alpha testing?***

* It is the form of Acceptance Testing. Alpha Testing is definitely performed and carried out at the developing organizations location with the involvement of developers. It comes under the category of both White Box Testing and Black Box Testing.

1. ***What is beta testing?***

* It is also the form of Acceptance Testing. Beta Testing (field testing) is performed and carried out by users or you can say people at their own locations and site using customer data. It is only a kind of Black Box Testing.

1. ***To create HLR & TestCase of Instagram***

**HLR (Instagram)**

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| --- | --- | --- |
| Functionality ID | Functionality name | Functionality Description |
| 1 | check website URL | while entering the address bar its open the website |
| 2 | Check Login button | While clicking on that its open the user account page |
| 100 | Check login with Facebook option | While clicking on that its open the Facebook account page |
| 200 | Check forgotten your password option | While clicking on that its open the change password page |
| 300 | Check signup button | While clicking on that its open the signup page |
| 400 | Check Get it on google play button | While clicking on that its redirect to play store page |
| 500 | Check Get it from Microsoft | While clicking on that its redirect to Microsoft store page to download |

1. ***Difference between Priority and Severity***

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| --- | --- |
| **Priority** | **Severity** |
| Priority is relative and business focused | Severity is absolute and customer focused |
| Product manager decides the priority of the defect | Tester decide the severity level of the defect |
| Priority means how fast defect has to be fixed | severity means how sever defect is affecting the functionality |
| Priority is related to scheduling to resolve the problem | Severity is related to quality standard |
| Types of priority:  Low  Medium  High  Critical | Types of severity:  Critical  High  Medium  Low  Cosmetic |

1. ***What is priority?***

* Priority defines the order in which we should resolve a defect. Should we fix it now, or can it wait? This process is set by tester to the developer mentioning the time frame to fix the defect.

1. ***What is severity?***

* Severity is absolute and Customer-Focused. It is the extent to which the defect can affect the software. In other words it defines the impact that a given defect has on the system.

1. ***When to used Usablity Testing?***

* Usability Testing identifies usability errors in the system early in development cycle and can save a product from failure.

1. ***What is the procedure for GUI Testing?***

* MANUAL BASED TESTING
* RECORD AND REPLAY
* MODEL BASED TESTING

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

* Scrum
* Kanban

1. ***Advantage of Bugzila***

* Advanced search capabilities
* E-mail notification
* Modify file bugs by email
* Time tracking
* Strong tracking
* Customization localization

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

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| --- | --- |
| **Authentication** | **Authorization** |
| 1. In the authentication process, the identity of users are checked for providing the access to the system. | While in authorization process, user authorities are checked for accessing the resources. |
| 1. In the authentication process user are verified. | While in the process user are validated |
| 1. It is done before the authorization process. | It is done after the authentication process |
| 1. It needs user login details | It needs users privilege or security levels |
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