**Module - 2**

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

1. **Testing shows presence of Defects:**

* Testing can show that defects are present, but cannot prove that there are no defects
* Testing cannot prove that there are no defects present.

**Ex. If tester found a 100+ defect then they can not able to say software is a defect free.**

1. **Exhaustive Testing is Impossible**

* Testing everything including all combinations of inputs and preconditions is not possible.
* For Ex. : In an application in one screen there are 15 input fields, each having 5 possible values, then to test all the valid combinations you would need 30 517 578 125 (515) tests.

1. **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
* Ex. We make application with some primary function but we have to add some advance feature but after done primary function we start the Testing and it save the money.

1. **Defect Clustering**

* A small number of modules contain most of the defects discovered during pre- release testing, or are responsible for the most operational failures. Defects are not evenly spread in a system they are ‘clustered
* An important consideration in test prioritization

1. **Pesticides Paradox**

* If the same tests are repeated overland 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 tests need to be written to exercise different parts of the software or system to potentially find more defects.

1. **Testing is Context Dependent**

* Testing is basically context dependent. Testing is done differently in different contexts.
* For example Safety – critical software is tested differently from an E-commerce site

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
* If we build a system and, in doing so, find and fix defects and It doesn’t make it a good system

**Que. 2 What is component testing?**

* Unit or component is smallest testable part of the software.

**Que. 3 What is Integration testing?**

* Testing performed to expose defect in interface and interaction between integrated components.

**Que. 4 What is functional system testing?**

* Testing based on analysis of specification of Functionality of component or system.
* Ex. Requirement specification, Uses Cases, Functional Specifications.

**Que. 5 What is Non-Functional Testing?**

* Testing the attributes of a component or system that do not related to functionality.
* Ex. Reliability, efficiency, Usability, interoperability etc.

**Que. 6 What is traceability matrix?**

* To protect against changes you should be able to trace back from every System component to the original requirement that caused its presence.

**Que. 7 What is black box testing? What are the different black box testing techniques?**

* Testing, either functional or non-functional, without reference to the internal structure of the component or system.

**Techniques of Black Box Testing**

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

**Que. 8 What is white box testing and list the types of white box testing?**

* Testing based on an analysis of the internal structure of the component or system
* **Types**
* A Statement coverage
* Decision coverage
* Condition coverage

**Que. 9 What is Boundary value testing?**

* Boundary value analysis is a methodology for designing test cases that concentrates software testing effort on cases near the limits of valid ranges

**Que. 10 What is Equivalence partitioning testing?**

* Aim is to treat groups of inputs as equivalent and to select one representative input to test them all

**Que. 11 What is Exploratory Testing?**

* Exploratory testing is a concurrent process where
* Test design, execution and logging happen simultaneously

**Que. 12 What is Adhoc testing?**

* Ad hoc testing is an informal testing type with an aim to break the system.

**Que.13 What is the purpose of exit criteria?**

* Purpose of exit criteria is to define when we STOP testing either at the:
* End of all testing – i.e. product Go Live
* End of phase of testing (e.g. hand over from System Test to UAT

**Que. 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.

**Que. 15 What is Alpha testing?**

* Alpha Testing is definitely performed and carried out at the developing organization’s location with the involvement of developers.

**Que. 16 What is beta testing?**

* Beta Testing is always performed at the time when software product and project are marketed

**Que. 17 What is GUI Testing?**

* Graphical User Interface (GUI) testing is the process of testing the system’s GUI of the System under Test. 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.

**Que. 18 What is load testing?**

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

**Que. 19 What is stress Testing?**

* System is stressed beyond its specifications to check how and when it fails. Performed under heavy load like putting large number beyond storage capacity, complex database queries, continuous input to system or database load.

**Que. 20 When to used Usablity Testing?**

* Aesthetics and design are important.
* Howell a product looks usually determines how well it works.
* There are many software applications / websites, which miserably fail, once launched, due to following reasons –hereto I click next?
* Which page needs to be navigated?
* Which Icon or Jargon represents what?
* Error messages are not consistent or effectively displayed Session time not sufficient.

**Que. 21 What is the procedure for GUI Testing?**

* **MANUAL BASED TESTING**

Under this approach, graphical screens are checked manually by testers in conformance with the requirements stated in business requirements document.

* **RECORD AND REPLAY**

GUI testing can be done using automation tools. This is done in 2 parts. During Record, test steps are captured into the automation tool.

* **QTP. MODEL BASED TESTING**

A model is a graphical description of system’s behaviour. It helps us to understand and predict the system behaviour. Models help in a generation of efficient test cases using the system requirements

**Que. 22 What determines the level of risk?**

1. Project Risk
2. Product Risk

**Que. 23 Mention what are the categories of defects?**

1. **Data Quality/Database Defects:** Deals with improper handling of data in the database. Examples: Values not deleted/inserted into the database properly Improper/wrong/null values inserted in place of the actual values
2. **Critical Functionality Defects:** The occurrence of these bugs hampers the crucial functionality of the application. Examples: - Exceptions • Functionality Defects: These defects affect the functionality of the application. Examples: All JavaScript errors Buttons like Save, Delete, Cancel not performing their intended functions A missing functionality (or) a feature not functioning the way it is intended to Continuous execution of loops
3. **A Security Defects:** Application security defects generally involve improper handling of data sent from the user to the application. These defects are the most severe and given highest priority fora fix. Examples: Authentication: Accepting an invalid username/password Authorization: Accessibility to pages though permission not given
4. **User Interface Defects:** As the name suggests, the bugs deal with problems related to UI are usually considered less severe. Examples: Improper error/warning/UI messages Spelling mistakes Alignment problems

**Que. 24 When should "Regression Testing" be performed?**

* Regression testing means testing your software application when it undergoes a code change to ensure that the new code has not affected other parts of the software.

**Que.25 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 requirements then it is failure

**Que. 26 Difference between Priority and Severity**

* A Severity is absolute and Customer-Focused. It is the extent to which the defect can affect the software. In otherwords it defines the impact that a given defect has on the system.
* For example: If an application orweb page crashes when a remote link is clicked, in this case clicking the remote link by an user is rare but the impact of application crashing is severe. So the severity is high but priority is low.
* Priority is Relative and Business-Focused. Priority defines the order in which we should resolve a defect
* Ex. If the company name is misspelled in the home page of the website, then the priority is highand severity is low to fix it.

**Que. 27 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 programs source code or its design.

**Que.28 What is the difference between the STLC (Software Testing Life Cycle) and SDLC (Software Development Life Cycle)?**

**Que. 29 What is the difference between test scenarios, test cases, and test script?**

* **Test Scenario** - A Scenario is any functionality that can be tested. It is also called Test Condition, or Test Possibility.
* **TestCase** – Test cases involve the set of steps, conditions and inputs which can be used while performing the testing tasks
* **Test Script** - A set of sequential instruction that detail how to execute a core business function

**Que.30 Explain what Test Plan is? What is the information that should be covered.**

* A document describing the scope, approach, resources and schedule Of intended test activities.
* Determining the scope and risks, and identifying the objectives of testing.
* Defining the overall approach of testing (the test strategy), including the definition of the test levels and entry and exit criteria.
* Integrating and coordinating the testing activities into the software life cycle activities

**Que. 31 What is priority?**

* Priority is Relative and Business-Focused. Priority defines the order in which we should resolve a defect.

**Que. 32 What is severity?**

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

**Que. 33 Bug categories are…**

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

**Que 34 Advantage of Bugzila .**

* A Bugzilla is an open-source issue/bug tracking system that allows developers effectively to keep track of outstanding problems with their product. It is written in Perl and uses MYSQL database.
* Bugzilla is a defect tracking tool, however it can be used as a test management tool as such it can be easily linked with other test case management tools like Quality Center, Testlink etc.
* This open bug-tracker enables users to stay connected with their clients or employees, to communicate about problems effectively throughout the data- management chain.

**Que. 35 What are the different Methodologies 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.

1. Kanban:

* Kanban is a very popular framework for development in the agile software development methodology.

**Que. 36 Difference between QA v/s QC v/s Tester**

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| --- | --- | --- |
| **QA** | **QC** | **Testing** |
| 1. QA mean Quality assurance | QC means Quality Control | Testing means testing |
| 1. QA is a Subset of STLC | QC is a Subset of QA | Testing is a subset of QC |
| 1. QA is Preventive Activities | QC is corrective process | Testing is Preventive Process |
| 1. QA is a Process oriented Activities | QC is a product oriented activities | Testing is a product oriented activities |

**Que. 36 Explain the difference between Authorization and Authentication in Web testing.What are the common problems faced in Web testing?**

|  |  |
| --- | --- |
| **Authorization** | **Authentication** |
| 1. It is done before the authorization process. | While this process is done after the authentication process. |
| 2.It needs usually the user’s login details | While it needs the user’s privilege or security levels. |
| 1. Authentication determines whether the person is user or not. | While it determines What permission does the user have? |
| 1. The user authentication is visible at user end. | The user authorization is not visible at the user end. |

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

**1.Cross-browser compatibility:** Websites need to function correctly across different web browsers such as Chrome, Firefox, Safari, and Internet Explorer

2. **Responsive design testing**: With the proliferation of mobile devices with various screen sizes and resolutions, ensuring that a website is responsive and displays correctly on different devices is crucial.

**3. Performance testing**: Websites need to perform well under various loads and traffic conditions. Performance testing involves assessing factors

**4. Security testing**: Websites are often targeted by malicious actors, so security testing is essential to identify vulnerabilities such as SQL injection

5. **Functional testing**: Ensuring that all features and functionalities of a website work as expected is fundamental.

**Que. 37 Explain the difference between Functional testing and Non-Functional testing**

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| --- | --- |
| **Functional Testing** | **Non-Functional Testing** |
| 1. Functional testing executed first | Non-Functional is executed after functional testing |
| 1. In Functional testing there is easy to do manual testing | In Non- Functional testing there is tough to do manual testing |
| 1. Functional testing describes what the product does | Non-Functional testing describes how good the product works |
| 1. Types of Functional Testing  * Unit testing * Integration testing * Black box testing * White box testing * Smoke testing * Sanity testing | Types of Non-Functional   * Load testing * Stress testing * Volume testing * Performance testing * Security testing * Compatibility testing |

**Que. 38 Difference between verification and Validation**

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| --- | --- |
| **Verification** | **Validation** |
| 1. Verification is done before coding | Validation is done after coding |
| 1. Verification has done development level | Validation has done testing level |
| 1. Verification is a static testing | Validation is a dynamic testing |
| 1. Verification evaluating plans, Requirement specs, design specs, code, test case | Validation evaluating actual product or software |

**Que. 38 Difference between Smoke and Sanity?**

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| **Smoke testing** | **Sanity testing** |
| 1. Smoke testing performed by developer or tester | Sanity testing usually performed by tester |
| 1. Smoke testing is usually documented or scripted | Sanity testing is usually not documented or is unscripted |
| 1. Smoke testing is subset of regression testing | sanity testing is subset of acceptance testing |
| 1. Smoke testing like general health check up | Sanity testing is like specialized heath check up |

**Que.39 Write a scenario of only Whatsapp chat messages**

* Scenario of live application – 1st sheet – whatsapp sheep

**Que.40 Write a Scenario of Pen**

* scenario – 1st sheet – Pen sheet

**Que.41 Write a Scenario of Pen Stand**

* scenario – 1st sheet – Pen sheet

**Que.42 Write a Scenario of Door**

* scenario – 2nd  sheet – door sheet

**Que.43 Write a Scenario of ATM**

1. Verify the ‘ATM Card Insertion Slot’ is as per the specification  
2. Verify the ATM machine accepts card and PIN details  
3. Verify the error message by inserting a card incorrectly  
4. Verify the error message by inserting an invalid card (Expired Card)  
5. Verify the error message by entering an incorrect PIN  
6. Verify that the user is asked to enter the PIN after inserting a valid ATM Card  
7. Verify that PIN is encrypted  
8. Verify that there is an action like blocking of card occurs when the total no. of incorrect PIN attempts get surpassed  
9. Verify the user is allowed to do only one cash withdrawal transaction per PIN request  
10. Verify the machine logs out of the user session immediately after successful withdrawal  
11. Verify the message when there is no money in the ATM  
12. Verify the language selection functionality  
13. Verify the cash withdrawal functionality by entering some valid amount  
14. Verify the cash withdrawal functionality by entering an amount less than 100  
15. Verify the cash withdrawal functionality by entering an amount greater than the total available balance in the account.

**Que.44 Write a Scenario of Wrist Watch**

* scenario – 6th sheet – wrist watch sheet

**Que.45 Write a Scenario of Lift(Elevator)**

* scenario – 5th sheet – Lift sheet

**Que.46 Write a Scenario of whatsapp Group (generate group)**

* Scenario of live application – 1st sheet – whatsapp sheep

**Que.47 Write a Scenario of Whatsapp payment**

* Scenario of live application – 1st sheet – whatsapp sheep

**Que. 48 To create HLR & TestCase of WebBased (WhatsApp web , Instagram) 1. WhatsApp Web**

<https://docs.google.com/spreadsheets/d/1Nh8kL7Jrl4eA0bFBars2Z0hWF6EXDnpis-ekNme1C0c/edit?usp=drive_link>

**Que . 49 To Create Scenario gmail(Positive & Negative)**

1. First check gmail page is accessible or not.
2. After proper gmail login page opens check all components are proper visible or not (for example :- username text box next button.
3. Press next button without entering email ID.
4. invalid email ID (test@g.com, test@gmail, [http://testgmail.com](http://testgmail.com/) and test@[gmail@test.com](mailto:gmail@test.com) etc)
5. Invalid mobile number.
6. Try to login with user that not sign up.
7. Check forgot email is working or not.
8. Check more option working or not (create account and not your device? ) is clickable or not.
9. Correct email ID, On password page check that email ID with defaul profile image(1st time login).
10. Try to change email ID by pressing down towards arrow icon.
11. Enter wrong password.
12. Enter blank password.
13. Check forgot password is working or not.
14. Wrong email ID with correct password.
15. After correct login details should redirect to inbox Page with user profile details.
16. Login with correct email id and password
17. Login with correct mobile number and password
18. Sign out from gmail, redirect to login page check email ID with password feaching or not ( show password page directly ).
19. Once you sign out, remove account option should be available

**Nagative**

1 .Verify that user can not able to login with valid email.

2.Verify that user can not able to login with valid password.

3.Verify that user can not able to login with blank field.

4. Verify that if user can put the valid credentials shows an error message

5.Verify that user can not able to login with valid password and invalid email.