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ASSIGNMANT: Modul 2 (Manual Testing)

1. What is Exploratory Testing?

   Exploratory testing is a software testing technique that involves simultaneously learning, designing, and executing tests without relying on predefined test cases. It's often described as unstructured or random in nature.

2. What is traceability matrix?

   A traceability matrix (TM) in software testing, also known as a requirements traceability matrix (RTM) or test matrix, is a document that shows the relationship between requirements and test cases:

3. 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.

4. What is Equivalence partitioning testing?

   Aim is to treat groups of inputs as equivalent and to select one

representative input to test them all.

5. What is Integration testing?

   Integration testing is a type of software testing in which the different units, modules or components of a software application are tested as a combined entity. However, these modules can be coded by different programmers.

6. Integration testing is a software testing phase where individual components or modules of an application are combined and tested as a group.

7. What determines the level of risk?

Risk analysis involves consideration of the consequences of the impacts associated with a risk and the probability that those impacts can occur.

These factors are combined to determine a level of risk. The level of risk is necessary to evaluate risk and plan risk treatment.

8. What is Alpha testing?

Alpha testing is a type of software testing conducted to identify bugs before the software is released to external users.

9. What is beta testing?

Beta testing is a phase in software development where a version of the software is released to a limited group of external users, known as beta testers.

10. What is component testing?

A minimal software item that can be tested in isolation. It means “A unit is the smallest testable part of software.”

10. What is functional system testing?

Functional system testing is a type of software testing that verifies whether an application's features work as intended.

11. What is Non-Functional Testing?

Non-functional testing is a type of software testing that evaluates how well a product performs, rather than whether it does what it's supposed to.

12. 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.

13. What is Adhoc testing?

Adhoc testing is an informal testing type with an aim to break the system.

14. What is load testing?

Load testing is a type of performance testing that evaluates how a system behaves under a specific expected load.

15. 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.

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

White box testing is a software testing method that involves examining the internal workings, logic, and structure of the code. Testers have access to the source code and design documents, allowing them to create test cases based on the program's logic and flow. This type of testing helps identify vulnerabilities, code quality issues, and logic errors.

Types of White Box Testing:

- Unit Testing: Tests individual components or functions for correctness.
- Integration Testing: Verifies interactions between integrated units or modules.
- Functional Testing: Assesses specific functionalities against design specifications.
- Code Coverage Testing: Measures which parts of the code are executed during tests, ensuring thorough testing.
- Control Flow Testing: Focuses on the execution paths within the code, verifying control structures.

- Data Flow Testing: Examines the flow of data within the application to identify variable usage and data manipulation.

- Mutation Testing: Involves modifying code to create faults and check if existing tests can detect them.

- Static Code Analysis: Analyzes code without executing it to find potential vulnerabilities and coding standard violations.

17. What is black box testing? What are the different black box testing techniques?

Black box testing is a software testing method where the tester evaluates the functionality of an application without knowing its internal code structure or implementation details. The focus is on input and output rather than the internal workings of the software.

Different Black Box Testing Techniques

- Equivalence Partitioning:

Divides input data into valid and invalid partitions to reduce the number of test cases. Only one representative from each partition is tested.

- Boundary Value Analysis:

Focuses on testing the boundaries between partitions. It includes testing at, just below, and just above the boundaries.

- Decision Table Testing: Uses a table to represent combinations of inputs and their corresponding outputs. This helps in identifying functional requirements and ensuring all combinations are tested.
- State Transition Testing:

Tests the software's behavior in different states and how it transitions from one state to another based on events or inputs.

- Use Case Testing:

Involves deriving test cases from use cases to ensure that all scenarios are validated against user requirements.

- Error Guessing:

Relies on the tester’s experience to guess the problematic areas in the application that might lead to errors, creating test cases accordingly.

- Exploratory Testing:

Involves simultaneous learning, test design, and execution. Testers explore the application without predefined test cases, identifying unexpected behavior.

18. Mention what are the categories of defects?

Defects can be categorized into several types based on different criteria. Here are some common categories:

- Functional Defects: Issues that prevent a product from performing its intended functions.
- Cosmetic Defects: Minor flaws that affect appearance but do not impact functionality.

- Performance Defects: Problems that cause a product to operate below expected performance standards.
- Usability Defects: Issues that hinder the user experience or make a product difficult to use.
- Compatibility Defects: Failures in a product to work with other systems, software, or hardware.
- Security Defects: Vulnerabilities that may expose the product to risks or attacks.
- Documentation Defects: Errors in manuals, guides, or other documentation that confuse users.
- Structural Defects: Flaws in the design or physical structure of a product that can lead to failure.

19. Mention what big bang testing is?

Big bang testing is a software testing technique that combines all the components of a system into a single unit and tests them.

20. 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)

21. When should "Regression Testing" be performed?

Regression testing should be performed whenever there are changes to a software application's codebase, including.

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

- Testing show presence of defect:
  - Testing can show that defect are present, but cannot prove that there are no defects.
  - Testing cannot prove that there are no defects.
  - We can just reduce the probability of defect.

- Exhaustive testing is impossible:
  - Testing everything including all combinations of inputs and precondition is not possible.

- 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.

- Defect clustered:
  - Defect are need to be clustered because one small bug can spread in system.

- Pesticide paradox:
  - It same tests are repeated over and over again, eventually the same best of test cases will no longer find any new defects.

- Testing is context dependent :
  - Testing is basically context dependent. Testing is done different contexts different kinds of sites tested differently.

- Absence of errors fallacy :
  - If the system built is unusable and does not fulfill the users needs and expectations then finding and fixing defects does not help.

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

Quality Assurance	Quality Control	Testing
Activities which ensures the implementation of processes and procedures in context to verification of developed software.	Activities which ensures the verification of developed software with respect to documented requirements.	Activities which ensures the identification of bug/error/defect in the software.

Focuses on processes and procedures rather than actual testing.	Focuses on actual testing by executing the developed software	Focuses on actual testing
Process oriented activities	Product oriented activities	Product oriented activities
Preventive process	Corrective process	Preventive process
Subset of STLC (Software Testing Life Cycle)	Subset of QA	Subset of QC

24. Difference between Smoke and Sanity?

Smoke Testing	Sanity Testing
Smoke testing is also called subset of acceptance testing.	Sanity testing is also called subset of regression testing.
Smoke testing is documented.	Sanity testing isn't documented.
Smoke testing is performed by either developers or testers.	Sanity testing is normally performed by testers.
Smoke testing is scripted.	Sanity testing is usually not scripted.

25. Difference between verification and Validation.

Verification	Validation
We check whether we are developing the right product or not.	We check whether the developed product is right.

Verification is also known as static testing.	Validation is also known as dynamic testing.
Verification is done before the validation testing.	After verification testing, validation testing takes place.
In this type of testing, we can verify that the inputs follow the outputs or not.	In this type of testing, we can validate that the user accepts the product or not.
The execution of code does not happen in the verification testing.	In validation testing, the execution of code happens.
Quality assurance comes under verification testing.	Quality control comes under validation testing.

26. Explain types of Performance testing.

Types of performance testing

- Load testing – load testing simulates a real-world load on the system to see how it performs under stress. It helps identify bottlenecks and determine the maximum number of users or transactions the system can handle. It checks the product's ability to perform under anticipated user loads

- Stress testing – stress testing is a type of load testing that tests the system's ability to handle a high load above normal usage levels. It helps identify the breaking point of the system and any potential issues that may occur under heavy load conditions. It involves

testing a product under extreme workloads to see whether it handles high traffic or not.

- Spike testing – spike testing is a type of load testing that tests the system's ability to handle sudden spikes in traffic. It helps identify any issues that may occur when the system is suddenly hit with a high number of requests. It tests the product's reaction to sudden large spikes in the load generated by users.

- Soak testing – soak testing is a type of load testing that tests the system's ability to handle a sustained load over a prolonged period. It helps identify any issues that may occur after prolonged usage of the system.

- Endurance testing - is similar to soak testing, but it focuses on the long-term behavior of the system under a constant load. It is performed to ensure the software can handle the expected load over a long period.

- Volume testing -in volume testing, a large number of data is saved in a database and the overall software system's behavior is observed. The objective is to check the product's performance under varying database volumes.

- Scalability testing – in scalability testing, the software application's effectiveness is determined by scaling up to support an increase in user load. It helps in planning capacity additions to your software system.

27. What is Error, Defect, Bug and failure?

- Error: A mistake in coding is error.
- Defect: An error found by tester is defect.
- Bug: Defect accepted by development team is bug.
- Failure: Build does not meet the requirements is failure.

28. Difference between Priority and Severity.

Severity	Priority
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.
The testing engineer basically decides a defect's severity level.	The product manager basically decides a defect's priority level.

29. What is Bug Life Cycle?

The duration or time span between the first time defects is found and the time that it is closed successfully, rejected, postponed or deferred is called as 'Defect Life Cycle'.

30. Explain the difference between Functional testing and NonFunctional testing.

Functional Testing	Non-functional Testing

It verifies the operations and actions of an application.	It verifies the behavior of an application.
It helps to enhance the behavior of the application.	It helps to improve the performance of the application.
It is based on requirements of customer.	It is based on expectations of customer.
It tests what the product does.	It describes how the product does.
Functional testing is based on the business requirement.	Non-functional testing is based on the performance requirement.

31. To create HLR & Test Case of.

(Instagram, Facebook) only first page	Click here
Facebook Login Page: https://www.facebook.com/	Click here

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

SDLC	STLC
Development Life Cycle	Testing Life Cycle
The main object of SDLC life cycle is to complete successful development	The only objective of the STLC phase is testing.

of the software including testing and other phases.	
In SDLC the business analyst gathers the requirements and create Development Plan	In STLC, the QA team analyze requirement documents like functional and non-functional documents and create System Test Plan
In SDLC, the development team creates the high and low-level design plans	In STLC, the test analyst creates the Integration Test Plan
The real code is developed, and actual work takes place as per the design documents.	The testing team prepares the test environment and executes them
SDLC phase also includes post-deployment supports and updates.	Testers, execute regression suits, usually automation scripts to check maintenance code deployed.

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

A test plan is a detailed document that provides guidance around specific test activities, scope, deliverables, and resource projections for the project. Comprehensive details regarding testing goals, levels, categories, outputs, timetable, resources, roles, duties, risk management, and criteria for completion.

34. What is priority?

Priority defines the order in which we should resolve a defect. Should 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 the developer has to fix it at the earliest. The priority status is set based on the customer requirements.

35. 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.

36. Bug categories are…

Bug categories are –

- Functionality Defect: Defects directly related to functionalities. Not working features properly.
  e.g. Calculator has no '=' button for the calculation.

- Performance Defects:
  Software doesn't meet the expected performance requirements.
  e.g. Website's loading time to open.
- User Interface Defects: Difficult to operate for the users. Not user friendly.

  e.g. Login page has no cancel button, Alignment problem.

- Compatibility Defects: Software does not work correctly on different hardware and software configuration.

e.g. Application not running on Android or Windows platform
Application interface shows differently in different browsers.

- Security Defects: Software doesn't protect the user's data from malicious attack.

  e.g. Password entered in visible form.
  Authentication: Accepting an invalid username/password
  Authorization: Accessibility to pages though permission not given

- Documentation Defects: Document is incorrect or inaccurate to use the features of the app.

37. Difference between priority and severity. (Repeated q.no. 28)

38. What are the different Methodologies in Agile Development Model?

Agile is a philosophy, set of values and principles to make a decision for developing a software.

Here, we will discuss widely used 2 methodologies of agile.

- Scrum: -
  Scrum is a framework through which we build software product by following Agile principles.

SCRUM is an agile development method which concentrates particularly on how to manage tasks within a team-based development environment.

Scrum includes group of people called a scrum team. Normally contains 5 to 9 members.

Scrum team can involve the people like product owner, scrum master, DEV team, QA team etc.

There are three roles in it, and their responsibility are –

- Scrum Master: The scrum can set up the master team, arrange the meeting and remove obstacles for the process

- Product owner: The product owner makes the product backlog, prioritizes the delay and is responsible for the distribution of functionality on each repetition.

- Scrum Team: The team manages its work and organizes the work to complete the sprint or cycle.

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

It provides a transparent way of visualizing the tasks and work capacity of a team.

It mainly uses physical and digital boards to allow the team members to visualize the current state of the project they are working on.

Kanban originated in Toyota in the 1940s.

Kanban's meaning in Japanese is "billboards."

The Kanban board has columns and story cards.

The columns are nothing, but workflow states and cards are nothing but a demonstration of the actual task a team member is performing.

Kanban should be used when you want to visualize your work, and you want to see the progress of your tasks visually.

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

Authentication	**Authorization**
In the authentication process, the identity of users is checked for providing the access to the system.	In the authorization process, the identity of users is checked for providing the access to the system.
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.	It is done before the authorization 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.

40. To create HLR & Testcase of Web Based (WhatsApp web, Instagram)

WhatsApp web	Click here
Instagram	Click here

41. To create HLR and Testcase on this Link

https://artoftesting.com/	Click here

42. Scenerios -

Write a scenario of only Whatsapp chat messages	Click here
Write a Scenario of Pen	
Write a Scenario of Pen Stand	
Write a Scenario of Door	
Write a Scenario of ATM	
Write a scenario of Microwave Owen	
Write a scenario of Coffee vending Machine	
Write a scenario of chair	
Gmail (Receiving Mail)	
Online Shopping to buy product (Flipkart)	
Write a Scenario of Wrist Watch	
Write a Scenario of Lift (Elevator)	
Write a Scenario of WhatsApp Group (generate group)	
Write a Scenario of Whatsapp Payment	

43. When to used Usablity Testing?

To check the user friendliness of the app and to check the accuracy & efficiency about the use.

for e.g. All fields on a page (For Example, text box, radio options, drop-down lists) should be aligned properly.

44. What is the procedure for GUI Testing?

To check the look and feel of the app. 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.