**Module–2(Manual Testing)**

**What is Exploratory Testing?**

Exploratory testing is often used in agile development environments, where rapid feedback and iteration are critical. It can also be used in conjunction with other testing approaches, such as automated testing and manual scripted testing.

**What is traceability matrix?**

A traceability matrix is a document used in project management and software development to track and manage the relationships between different project artifacts, such as requirements, test cases, and design documents. The purpose of a traceability matrix is to ensure that all project artifacts are consistent, complete, and accurate, and that changes to one artifact are reflected in all related artifacts.

**What is Boundary value testing?**

Boundary value testing is commonly used in areas such as data validation and parameter checking, where errors at the boundaries of input values can cause significant issues or even crashes. This technique can be performed manually or using automated testing tools, and is often an important part of a comprehensive software testing strategy

**What is Equivalence partitioning testing?**

Equivalence partitioning testing is a software testing technique used to divide a range of input values into different partitions or sets that are considered equivalent with respect to the behavior of the software under test. This technique is based on the idea that if a particular input value causes the software to behave in a certain way, then any other input value in the same partition should cause the software to behave in the same way.

**What is Integration testing?**

Integration testing is a software testing technique that tests the interfaces between components or modules of a system. It is performed after unit testing and before system testing, and it aims to identify defects in the interactions between different modules of the software.

**What determines the level of risk?**

Probability: The likelihood of an event occurring. The higher the probability of an event, the greater the risk.

Consequence: The potential negative impact or loss that may occur if the event does occur. The greater the potential negative impact, the higher the level of risk.

Exposure: The extent to which individuals or assets are vulnerable to the event. The greater the exposure, the higher the level of risk.

Control measures: The effectiveness of measures in place to mitigate or manage the risk. The weaker the control measures, the higher the level of risk.

Context: The specific circumstances surrounding the situation, including external factors such as environmental or economic conditions. The context can either increase or decrease the level of risk.

**What is Alpha testing?**

Alpha testing is a type of software testing that is conducted to identify defects and issues with an application in its early stages of development, before it is released to the public. In alpha testing, the software is tested by a small group of testers, often in-house developers or a select group of customers, who work closely with the development team to ensure that the software is functioning as intended.

**What is beta testing?**

Beta testing is a type of software testing that occurs during the final stages of development, before the product is released to the general public. It involves releasing a pre-release version of the software, called a beta version, to a limited group of users for testing and feedback.

**What is component testing?**

Component testing, also known as unit testing, is a software testing technique that focuses on testing individual modules or components of a software application in isolation from the rest of the system. The main objective of component testing is to identify and fix defects or errors in the software code at an early stage of the development process.

**What is functional system testing?**

Functional System Testing (FST) is a type of software testing that focuses on verifying the functional requirements of a system or application. It involves testing the entire system or application as a whole, rather than testing individual components in isolation.

**What is Non-Functional Testing?**

Non-functional testing is a type of software testing that evaluates the performance, reliability, usability, and other non-functional aspects of a system. It focuses on testing the quality attributes of a software system such as scalability, responsiveness, security, maintainability, and usability. Unlike functional testing, non-functional testing does not test the features or functionalities of the system but rather its ability to perform under certain conditions.

**What is GUI Testing?**

GUI testing (Graphical User Interface testing) is a type of software testing that evaluates the graphical user interface of an application or system. The purpose of GUI testing is to ensure that the user interface functions as intended and that users can interact with it easily and effectively

**What is Adhoc testing?**

Adhoc testing is a type of software testing where testers use their experience, knowledge, and creativity to find defects in the software application. It is an informal and unstructured testing method that is performed without any formal test plan or test cases. Adhoc testing is also known as exploratory testing, because testers explore the software application and look for defects that may not have been identified in the formal testing process.

**What is load testing?**

Load testing is a type of software testing that involves measuring the performance of a system, application or website under varying levels of simulated load. The objective of load testing is to identify the maximum amount of load that a system can handle before its performance begins to degrade or fail.

**What is stress Testing?**

Stress testing is a type of software testing that evaluates the behaviour of a system or application under extreme load conditions. The goal of stress testing is to identify the breaking point of a system or application, which is the maximum level of load that it can handle before it becomes unstable or crashes.

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

White box testing, also known as clear box testing, is a type of software testing that evaluates the internal workings and logic of an application or system. The tester has access to the source code and design documentation of the system being tested, allowing them to analyse and verify the code's functionality, structure, and behaviour.

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

Black box testing is a software testing technique that focuses on testing the functionality of a software application without any knowledge of its internal workings. In other words, the tester is unaware of the code structure, design, or implementation details and only interacts with the application's input and output.

Equivalence partitioning

Boundary value analysis

State transition testing

Random testing

Cause-effect graphing

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

Functional Defects

Performance Defects

Usability Defects

Documentation Defects

**Mention what big bang testing is?**

Big Bang Testing" refers to a software testing technique where all the modules of a system are integrated at once, and then the entire system is tested as a whole. It is usually used in small projects with less complexity or when there is a tight deadline and limited resources available for testing.

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

The purpose of exit criteria is to define the conditions that must be met in order to complete a specific phase of a project, or to formally close the project. Exit criteria provide a set of measurable and objective standards that can be used to determine whether the project deliverables have been completed satisfactorily, and whether the project has met its objectives.

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

After a major release or deployment of the software to ensure that the system continues to function as expected.

After a significant change in the system environment, such as an operating system or hardware upgrade.

When there is a change in the testing approach, methodology, or tools being used to ensure that the previous functionality is not affected.

When there is a change in the user requirements or business rules.

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

The concept of "7 key principles" can refer to different sets of principles depending on the context. However, one commonly referred set of principles is the Seven Principles of the International Cooperative Alliance (ICA), which are the following:

Voluntary and Open Membership: Cooperatives are open to all individuals who are willing to use their services and accept the responsibilities of membership, without discrimination.

Democratic Member Control: Cooperatives are democratically controlled by their members, who have equal voting rights and participate in decision-making processes.

Member Economic Participation: Members contribute equitably to, and democratically control, the capital of their cooperative. This allows them to benefit from the cooperative's economic activities.

Autonomy and Independence: Cooperatives are autonomous and independent organizations, controlled by their members, and should be able to make decisions without outside interference.

Education, Training, and Information: Cooperatives provide education and training for their members, elected representatives, managers, and employees so they can contribute effectively to the development of their cooperative. They also inform the general public about the nature and benefits of cooperation.

Cooperation Among Cooperatives: Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional, and international structures.

Concern for Community: Cooperatives work for the sustainable development of their communities through policies and programs approved by their members.

**Difference between QA v/s QC v/s Tester**

QA is responsible for ensuring that the software development process is followed correctly, QC is responsible for testing the software to ensure that it meets the required quality standards, and Testers are responsible for testing the software and identifying defects or bugs in the software.

**Difference between Smoke and Sanity?**

smoke testing is done early in the testing process to ensure the critical functionalities of the software are working, while sanity testing is done later in the testing process to ensure the software is ready for more comprehensive testing.

**Difference between verification and Validation**

verification is about ensuring that the software is built according to the requirements, while validation is about ensuring that the requirements are correct and the software meets the user's needs.

**Explain types of Performance testing.**

the different types of performance testing help ensure that an application or system can perform optimally under different circumstances and meet the user's expectations.

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

an error is a human mistake, a defect is a problem with the software that affects its quality, a bug is a coding error, and a failure is the result of a defect or bug in the software that prevents it from working as intended.

**Difference between Priority and Severity**

priority and severity are both important factors in managing issues and defects in software testing, but priority is based on the urgency of addressing the issue, while severity is based on the impact of the issue on the software and its users.

**What is Bug Life Cycle?**

Bug Life Cycle, also known as Defect Life Cycle, refers to the stages that a software defect goes through during its existence in a software development process. The bug life cycle is important to understand for software developers, testers, and other stakeholders involved in software development, as it helps to manage and track bugs effectively.

Understanding the bug life cycle is important for software development teams because it helps them to manage and prioritize bugs, track progress, and ensure that bugs are fixed efficiently and effectively.

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

SDLC is the overall process of developing software, while STLC is a subset of SDLC that focuses specifically on testing the software. Both processes are crucial to ensure that the software is developed and tested in a structured and effective manner, leading to a high-quality end product

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

A test scenario is a high-level description of what will be tested, a test case is a specific set of steps or instructions that are designed to test a particular aspect of the software, and a test script is a set of automated instructions or code that is used to execute a test case.

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

the test plan serves as a roadmap for the testing effort, ensuring that all aspects of the testing process are thoroughly planned, executed, and documented to ensure a successful software or system release.

**What is priority?**

The priority of a defect is usually determined by factors such as its impact on the system's functionality, the severity of the issue, the potential risks associated with the defect, and the business requirements. The priority of a defect helps the development team to prioritize their efforts in fixing the issues based on their importance and urgency.

**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.

**Bug categories are…**

Data Quality/Database Defects

Functionality Defects

Critical Functionality Defects

User Interface Defects:

Security Defects

**Advantage of Bugzila .**

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.

**Difference between priority and severity**

priority is a measure of urgency or importance, while severity is a measure of impact or severity. While both factors are important in bug tracking and issue resolution, they serve different purposes and should be evaluated independently when assigning and addressing bugs and issues.

**What is Bug Life Cycle?**

Bug Life Cycle, also known as Defect Life Cycle, is a series of stages that a software defect or bug goes through during its lifetime. It is important to understand the Bug Life Cycle in order to effectively manage and resolve bugs in software development.

**Explain the difference between Functional testing and Non-functional testing**

Functional testing and non-functional testing are two different types of software testing that aim to ensure that a software application meets the desired quality standards. The main difference between them lies in the aspects of the software that they evaluate

functional testing evaluates the software's functionality, while non-functional testing evaluates the software's performance and other non-functional aspects. Both types of testing are crucial for ensuring that software meets the desired quality standards.

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

Agile development is a software development approach that emphasizes flexibility, collaboration, and customer satisfaction. There are several different methodologies within the Agile approach, including:

Scrum: This is the most popular Agile methodology, where the development process is divided into sprints, typically 1-4 weeks long. The team meets daily for a stand-up meeting, and the sprint ends with a review and retrospective.

Kanban: Kanban is a lean method for managing and improving work across human systems. This methodology emphasizes visualizing the workflow, limiting work in progress, and measuring cycle time.

Extreme Programming (XP): XP is an Agile methodology that focuses on continuous feedback and testing, with a strong emphasis on engineering practices such as pair programming, continuous integration, and test-driven development.

Lean Software Development: This methodology emphasizes delivering value to the customer through a continuous stream of improvements. It also focuses on reducing waste and eliminating activities that do not add value.

Crystal: Crystal is a family of Agile methodologies that emphasizes the importance of communication and collaboration between team members. It also emphasizes the importance of adapting the development process to the specific project and team.

Feature-Driven Development (FDD): FDD is an Agile methodology that focuses on breaking down development into small, manageable features that can be delivered quickly. It emphasizes team collaboration, planning, and review processes

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

Authentication refers to the process of verifying the identity of a user or system attempting to access a web application. It involves checking the user's credentials, such as username and password, to ensure that they are valid and match what is expected. Authentication is typically performed before authorization to ensure that only authenticated users are granted access to the system.

Authorization, on the other hand, refers to the process of granting or denying access to a web application's resources or functionality based on the authenticated user's permissions. It involves checking whether the authenticated user has the necessary privileges to perform the requested action.

**When to used Usablity Testing?**

usability testing can be used at any stage of the product development lifecycle to ensure that a product or service is user-friendly, efficient, and effective.