1. What is traceability matrix ?

- Traceability matrix is to protect against changes you should be able to trace back from every system components to the original requirement the caused its presence.

2. What is boundary value testing ?

- Boundary value analysis is a method which refines equivalence partitioning.
- Boundary value analysis generates test cases that highlight errors better then equivalence partitioning.

3.What is Equivalence partitioning testing ?

- Aim is to treat groups of inputs as equivalent and to select one representative input to test them all.
- EP says that by testing just one value we have tested the partition. it assume that;
    a. If one value finds a bug, the others probably will too.
    b. If one doesn't find a bug, the others probably won't either.

4.What is Exploratory testing ?

- Though the current trend in testing is to push for automation, Exploratory testing is a new way of thinking.
- Is not a random testing but it is Ad-hoc testing with purpose of find bugs.

5.What is integration testing ?

- Integration testing is a software testing process that focuses on verifying the interactions between different components or modules of a system to ensure they work together as expected.

6.What determine the level of risk ?

I. Impact or severity
II. Complexity
III. Uncertainty or Lack of information
IV. Resources Availability
V. Change Management

7.What is Alpha testing ?

- Alpha testing is a type of acceptance testing performed during the software development life cycle (SDLC) to ensure the software is working as expected before it is released to external users. The goal is to identify bugs, issues, or areas of improvement before the software is made available for beta testing or general release.

8.What is Beta testing ?

- Beta testing is a phase in the software development process where a product, after undergoing alpha testing, is released to a group of external users (called **beta testers**) to evaluate the product in a real-world environment. Beta testing allows developers to gather feedback on the product's functionality, usability.

9.What is component testing ?

- Component testing is a software testing technique that focuses on testing individual components or modules of a software application in isolation, to verify that each part of the system works as intended.

10.What is functional system testing ?

- Functional testing is a type of software testing that evaluates whether the entire software system functions according to its specified requirements and performs the tasks it is intended to do.

11. What is Non Functional testing ?

- Non-functional testing is a type of software testing that focuses on evaluating the non-functional aspects of a software application, such as its performance, usability, security, reliability, scalability, and other quality attributes, rather than its specific functional behaviour.

12. What is GUI testing ?

- GUI testing (Graphical User Interface testing) is a type of software testing , The primary goal is to ensure that the interface functions correctly, is user-friendly, and meets the design and usability specifications.

13. What is Ad-hoc testing ?

- Ad-hoc testing is an informal testing type with an aim to break the system.
- It does not follow any test design techniques to create test case.
- In fact is does not create test cases altogether.

14. What is Load testing ?

- Load testing is a performance testing to check system behaviour under load.
- Load testing is a kind of performance testing which determines a systems performance under real life load condition. This testing helps determine how the application behaves when multiple users access it simultaneously.

15. What is stress testing ?

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

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

- White box testing is based on an analysis of the internal structure of the component or system.
- Structure based testing technique is also known as **'White box'** or **'glass-box'** testing.
- White box testing is also called **glass testing** and **open box testing**.

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

- In this testing, either functional or non-functional, without reference to the internal structure of the component or system.
- The tester have no knowledge of how the system or component is structured inside the box.

❖ Techniques of black box testing;

- ✓ Equivalence partitioning
- ✓ Boundary value analysis
- ✓ Decision tables
- ✓ State transition testing

18. Mention what are the categories of defect ?

- Critical functionality defects
- Functionality defects
- Security defects
- User interface defects

19. Mention what big-bang testing is ?

- In big-bang testing all components or modules is integrated simultaneously, after which everything is tested as a whole.

20. What is the purpose of exit criteria ?

- Successful testing of integrated application.
- Executed test cases are documented.
- All high prioritized bugs fixed and closed

21. When should "Regression Testing" be performed ?

- When the system is stable and the system and environment changes.
- When testing bug-fix releases as part of the maintenance phase

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

I. **Testing shows presence of defects**—Testing can show that defect are present, but cannot prove that there are no defects.

II. **Exhaustive Testing is impossible**.--- Testing everything including all combination of inputs and preconditions in not possible.

III. **Early testing**—Testing activities should start as early as possible in the software or system development life cycle, and should focused on define objective.

IV. Defect clustering— A small number of modules contain most of the defect

V. **The pesticide paradox----** If the same tests are repeated over and over again, eventually the same set of test cases will no longer find any new defect.

VI. **Testing is context dependent ----** Different kinds of sites are tested differently.

VII. **Absence of errors fallacy ---** Even after defects have been resolved it may still be unusable and does not fulfil the users need and expectation.

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

Aspect	QA (Quality Assurance)	QC (Quality Control)	Tester
Focus	Process-oriented	Product-oriented	Test execution-oriented
Objective	Prevent defects by improving processes	Identify and fix defects in the product (software)	Find bugs by executing test cases
Primary Responsibility	Ensuring the development and testing processes are effective	Ensuring the product meets the required quality standards	Executing manual tests and reporting defects

24. Difference between smoke and sanity ?

Smoke	Sanity
1. Smoke testing is verifies critical Functionalities like application Start successfully.	1. It is verifies new functionalities bug fixes In the build.
2. The objective of this testing Is to verify "stability" of the System.	2. The objective of this testing is to verify the "rationality" of the system.
3. This testing is performed Developer or tester.	3. This testing is performed By tester.
4. This testing is documented or Scripted.	4. This testing is not Documented or scripted.

25. Difference between verification and validation.

Verification	Validation
1. The process of evaluating Work product at a development phases To determine whether they meet the Specified requirements for that phase.	1. The process of evaluating software during or at the end of the development Process to determine satisfies Specified business requirement.
2. To ensure that the product is being Built according to the requirement and Design specification.	2. To ensure that the product actually meets the Users needs, and that the specification were correct in the first place.
3. Are we building the product right.	3. Are we building the right Product.

26.Explain type of performance testing.

- Load testing
- Stress testing
- Endurance testing
- Volume testing
- Scalability testing

27. 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 is called **bug.**
- Build does not meet the requirements then it is **failure.**

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

SDLC	**STLC**
It is primarily connected to software development, which means that it is the procedure of developing a software application.	It is mainly linked to software testing, which means that it is a software testing process that contains various phases of the testing process
SDLC stands for software development life cycle.	**STLC stands for software testing life cycle.**
While performing the SDLC process, we needed a greater number of developers to complete the development process.	The STLC process needed a smaller number of testers to complete the testing process.
Besides the development phase, other phases like testing are also included.	The STLC concentrate only on testing the software.

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

TEST SCENARIOS	**TEST CASES**	**TEST SCRIPT**
A Scenario is any functionality that can be tested. It is also called Test Condition, or Test Possibility	Test cases involve the set of steps, conditions and inputs which can be used while performing the testing tasks.	A set of sequential instruction that detail how to execute a core business function.
Test scenario is nothing but	Test case consist of set of input values, execution	Written to a level of detail for which someone else

test procedure.	precondition, expected Results and executed post-condition developed to cover certain test Condition.	(other than the script writer) would be able to easily execute
The scenarios are derived from use cases.	Test cases are derived (or written) from test scenario.	Identifies the test condition that is being satisfied for each step, if applicable
The scenarios are derived from use cases.	Test Case represents a single (low level) action by the user	Identified the input/test data that should be entered for each transaction

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.

Key information in a plan

1. Test objectives
2. Test scope
3. Test strategy
4. Entry and exit criteria
5. Test deliverables
6. Test environment
7. Role and responsibilities
8. Risk and mitigation

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

1. Scram
2. Kanban
3. Extreme programing(XP)

Scram frameworks:

➔ Product backlog
➔ Sprint planning
➔ Sprint backlog
➔ Daily scram
➔ Sprint retrospective
➔ Sprint review