1. What is Exploratory Testing?

- Exploratory testing is an approach to software testing that is often described as simultaneous learning, test design, and execution. It focuses on discovery and relies on the guidance of the individual tester to uncover defects that are not easily covered in the scope of other tests.

2. What is traceability matrix?

- A traceability matrix is a document that details the technical requirements for a given test scenario and its current state. It helps the testing team understand the level of testing that is done for a given product. The traceability process itself is used to review the test cases that were defined for any requirement.

3. What is Boundary value testing?

- Boundary Value Analysis is based on testing the boundary values of valid and invalid partitions. The behavior at the edge of the equivalence partition is more likely to be incorrect than the behavior within the partition, so boundaries are an area where testing is likely to yield defects.

4. What is Equivalence partitioning testing?

- Equivalence partitioning is a technique that divides the input domain of a system into partitions or classes that are expected to produce the same output or behavior.

5. What is Integration testing?

- Integration testing is known as the second level of the software testing process, following unit testing. Integration testing involves checking individual components or units of a software project to expose defects and problems to verify that they work together as designed.

6. What determines the level of risk?

- Determining the level of risk usually involves trying to assess not only the likelihood of an identified risk from actually occurring, but also the potential magnitude the consequences this risk could have on an organisation and its stakeholder, should it occur.

7. What is Alpha testing?

- Alpha testing is the first end-to-end testing of a product to ensure it meets the business requirements and functions correctly. It is typically performed by internal employees and conducted in a lab/stage environment. An alpha test ensures the product really works and does everything it's supposed to do.

8. What is beta testing?

- Beta testing is an opportunity for real users to use a product in a production environment to uncover any bugs or issues before a general release. Beta testing is the final round of testing before releasing a product to a wide audience.

9. What is component testing?

- Component testing is a form of closed-box testing, meaning that the test evaluates the behavior of the program without considering the details of the underlying code. Component testing is done on the section of code in its entirety, after the development has been completed.

10. What is functional system testing?

- Functional testing is a type of testing that seeks to establish whether each application feature works as per the software requirements. Each function is compared to the corresponding requirement to ascertain whether its output is consistent with the end user's expectations.

11. What is Non-Functional Testing?

- Non-functional testing is almost as critical as functional testing, and it has an effect on customer satisfaction.

12. What is GUI Testing?

- GUI testing refers to the validating UI functions or features of an application that are visible to the users, and they should comply with business requirements.

13. What is Adhoc testing?

- Adhoc testing is a type of software testing which is performed informally and randomly after the formal testing is completed to find out any loophole in the system. For this reason, it is also known as Random testing or Monkey testing.

14. What is load testing?

- Load testing examines how the system behaves during normal and high loads and determines if a system, piece of software, or computing device can handle high loads given a high demand of end-users.

15. What is stress Testing?

- Stress testing is defined as a type of software testing that verifies the stability and reliability of the system. This test particularly 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 a form of application testing that provides the tester with complete knowledge of the application being tested, including access to source code and design documents.

  - list the types of white box testing

    - Path Testing is a white-box testing approach based on a program's control structure.
    - Loop Testing
    - Conditional Testing
    - Unit Testing
    - Mutation Testing
    - Integration Testing
    - Penetration Testing
    - Testing based on Memory Perspective
    - Test Performance of the Program

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

- Black box testing, a form of testing that is performed with no knowledge of a system's internals, can be carried out to evaluate the functionality, security, performance, and other aspects of an application. Dynamic code analysis is an example of automated black box security testing.

  - There are four main black box testing techniques:

    - equivalence partitioning
    - boundary value analysis
    - decision table testing
    - state transition testing

18. Mention what are the categories of defects?

- Arithmetic Defects.
- Logical Defects.
- Syntax Defects.
- Multithreading Defects.
- Interface Defects.
- Performance Defects.

19. Mention what bigbang testing is?

- Big-bang integration testing is a type of integration testing that combines all the modules or components of a system into a single unit and tests them as a whole.

20. What is the purpose of exit criteria?

- Exit criteria is an important document prepared by the QA team to adhere to the imposed deadlines and allocated budget. This document specifies the conditions and requirements that are required to be achieved or fulfilled before the end of software testing process.

21. When should "Regression Testing" be performed?

- Regression testing can be performed on a new build when there is a significant change in the original functionality. It ensures that the code still works even when the changes are occurring. Regression means Re-test those parts of the application, which are unchanged.

22. what is 7 key pricipales? Explain in detail.

- 1) Exhaustive testing is not possible

Yes! Exhaustive testing is not possible. Instead, we need the optimal amount of testing based on the risk assessment of the application.

And the million dollar question is, how do you determine this risk?

To answer this let's do an exercise

In your opinion, Which operation is most likely to cause your Operating system to fail?

I am sure most of you would have guessed, Opening 10 different application all at the same time.

So if you were testing this Operating system, you would realize that defects are likely to be found in multi-tasking activity and need to be tested thoroughly which brings us to our next principle Defect Clustering

2) Defect Clustering

Defect Clustering which states that a small number of modules contain most of the defects detected. This is the application of the Pareto Principle to software testing: approximately 80% of the problems are found in 20% of the modules.

By experience, you can identify such risky modules. But this approach has its own problems

If the same tests are repeated over and over again, eventually the same test cases will no longer find new bugs.

3) Pesticide Paradox

Repetitive use of the same pesticide mix to eradicate insects during farming will over time lead to the insects developing resistance to the pesticide Thereby ineffective of pesticides on insects. The same applies to software testing. If the same set of repetitive tests are conducted, the method will be useless for discovering new defects.

To overcome this, the test cases need to be regularly reviewed & revised, adding new & different test cases to help find more defects.

Testers cannot simply depend on existing test techniques. He must look out continually to improve the existing methods to make testing more effective. But even after all this sweat & hard work in testing, you can never claim your product is bug-free. To drive home this point, let's see this video of the public launch of Windows 98

You think a company like MICROSOFT would not have tested their OS thoroughly & would risk their reputation just to see their OS crashing during its public launch!

4) Testing shows a presence of defects

Hence, testing principle states that – Testing talks about the presence of defects and don't talk about the absence of defects. i.e. Software Testing reduces the probability of undiscovered defects remaining in the software but even if no defects are found, it is not a proof of correctness.

But what if, you work extra hard, taking all precautions & make your software product 99% bug-free. And the software does not meet the needs & requirements of the clients.

This leads us to our next principle, which states that- Absence of Error

5) Absence of Error – fallacy

It is possible that software which is 99% bug-free is still unusable. This can be the case if the system is tested thoroughly for the wrong requirement. Software testing is not mere finding defects, but also to check that software addresses the business needs. The absence of Error is a Fallacy i.e. Finding and fixing defects does not help if the system build is unusable and does not fulfill the user's needs & requirements.

To solve this problem, the next principle of testing states that Early Testing

6) Early Testing

Early Testing – Testing should start as early as possible in the Software Development Life Cycle. So that any defects in the requirements or design phase are captured in early stages. It is much cheaper to fix a Defect in the early stages of testing. But how early one should start testing? It is recommended that you start finding the bug the moment the requirements are defined. More on this principle in a later training tutorial.

7) Testing is context dependent

Testing is context dependent which basically means that the way you test an e-commerce site will be different from the way you test a commercial off the shelf application. All the developed

software's are not identical. You might use a different approach, methodologies, techniques, and types of testing depending upon the application type. For instance testing, any POS system at a retail store will be different than testing an ATM machine.

23. Difference between QA vs QC Tester

- While QA testing focuses on providing assurance that quality requested will be achieved, QC testing focuses on fulfilling the quality requested. QA focuses on preventing defects while QC focuses on identifying the defect.

24. Difference between smoke and sanity

- Smoke testing is executed at the initial stage of SDLC, to check the core functionalities of an application. Whereas Sanity & Regression testing are done at the final stage of SDLC, to check the main functionalities of an application.

25. Difference between verification and validation

- Validation is the process of checking whether the specification captures the customer's requirements, while verification is the process of checking that the software meets specifications. Verification includes all the activities associated with the producing high quality software.

26. Explain types of Performance testing.

- Performance testing is a testing measure that evaluates the speed, responsiveness and stability of a computer, network, software program or device under a workload. Organizations will run performance tests to identify performance-related bottlenecks.

27. What is error, Defect, Bug and Failure?

- Error
- An error is a mistake made by a human that leads to a discrepancy between the actual and the expected result.

- Defect
- A defect is a problem in the functioning of a software system during testing. ISTQB defines a defect as "A flaw in a component or system that can cause the component or system to fail to perform its required function, e.g., an incorrect statement or data definition."

- Bug
- A bug is a flaw in a software system that causes the system to behave in an unintended manner.

- Failure
- A failure is the inability of a software system to perform its operations within the specified performance benchmark. As per ISTQB, “a defect, if encountered during execution, may cause a failure of the component or system”.

28. Difference between Priority and Severity?

- Priority is a term that defines how fast we need to fix a defect. Severity is basically a parameter that denotes the total impact of a given defect on any software. Priority is basically a parameter that decides the order in which we should fix the defects. Severity relates to the standards of quality.

29. what is bug cycle?

- The bug life cycle in testing refers to a cycle of defects in which it goes through different states throughout its life. The life cycle begins with a new defect discovered by a tester while testing the application. It continues until the tester discovers a specific solution and closes the bug, so it does not reoccur.

30. Deference between functional and non-function testing

- Functional testing is the testing in which the basic functionality, operations and actions of the application/software on the basis of requirements provided is done. Non-Functional testing is the testing in which the performance or usability and behavior of software/application is done under different circumstances.

31. What is priority?

- If something is a priority, it is the most important thing you have to do or deal with, or must be done or dealt with before everything else you have to do. Being a parent is her first priority.

32. What is severity?

- One can define Severity as the extent to which any given defect can affect/ impact a particular software. Severity is basically a parameter that denotes the impact of any defect and its implication on a software's functionality.

33. Bug categories are….

- **7 Common Types of Software Bugs Every Tester Should Know**

- Functional Bugs.
- Logical Bugs.
- Workflow Bugs.
- Unit Level Bugs.
- System-Level Integration Bugs.
- Out of Bound Bugs.
- Security Bugs.

34. Advantage of Bugzilla.

- It improves the quality of the product.
- It enhances the communication between the developing team and the testing team.
- It has the capability to adapt to multiple situations.

35. Difference between priority and severity

- Priority is a term that defines how fast we need to fix a defect. Severity is basically a parameter that denotes the total impact of a given defect on any software. Priority is basically a parameter that decides the order in which we should fix the defects. Severity relates to the standards of quality.

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

- here are more than a dozen agile techniques that are in use. Scrum, Extreme Programming (XP), lean product development, Kanban, Feature-Driven Development (FDD), Dynamic Systems Development Method (DSDM), and the Crystal family of methodologies are the most popular approaches.

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

- Authentication refers to a rule of evidence which requires that evidence must be sufficient to support a finding that the matter in question is what its proponent claims. The "authenticity" rule relates to whether the subject of an evidentiary offering (generally a tangible thing), is what it purports to be.

38. Write a scenario of only Whatsapp chat messages

1. Verify that the user can send messages to any individual selected from his contact list.
2. Verify that ‘Chats’ window contains all the chat list with DP and name and last message preview of the other person with whom chat was initiated.
3. Verify that clicking a chat in the chat list opens a new window containing all the chats received and sent with the other person.

4. Verify that the user can check the message delivered and read the time for a message in the 'Message Info' section.
5. Verify that the user can share or receive contact with the other person.
6. Verify that the user can create a group by adding multiple people from his contact list.
7. Verify that the user can send and receive the message in group chats.
8. Verify that users can send and receive images, audio, video, and emoticons in the chat with individuals.
9. Verify that users can send and receive images, audio, video, and emoticons in group chats.
10. Verify that the user can send and receive chats in the secondary languages available.
11. Verify that users can delete text, images, audio, and video messages within a chat.
12. Verify that users can clear their complete chat history in an individual or group chat.
13. Verify that users can archive chats in an individual or group chat.
14. Verify that users can block a user to prevent any message from getting received from the blocked contact.
15. Verify that the user makes WhatsApp calls to the person in his contact list.
16. Verify that the user can receive WhatsApp calls from the person in his contact list.
17. Verify that users can mark chats as favorites and access all chats marked as favorites from the 'Favorites' section.

39. Write a Scenario of Pen

1. The grip of the pen: Verify if you are able to hold the pen comfortably.
2. Writing: Verify if you are able to write smoothly.
3. Verify that the pen is not making any sound while writing.
4. Verify the ink flow. It should not overflow nor get a break either.
5. Verify the quality of the material used for the pen.
6. Verify if the company or pen name is visible clearly.
7. Verify if the pen color or text written on the pen is not getting removed easily.
8. Verify, whether the width of the line drawn by the pen is as per the expectations or not.
9. Verify the ink color, it should be consistent from the start till the end.
10. Verify if a pen can write on a variety of papers like smooth, rough, thick, thin, glossy etc.
11. Verify for the waterproof ink. [Not for gel and ink pens].
12. Verify if the ink will not get dried easily by keeping the pen open for some time. [Not for ink pen]
13. Verify if any other refill fits in the pen or not.
14. Verify that the pen doesn't have sharp edges or corners.
15. Verify if the ink and external assembly of the pen is made of non-toxic material.

40. Write a Scenario of Door

1. Verify if the door is single door or bi-folded door.
2. Check if the door opens inwards or outwards.
3. Verify that the dimension of the doors are as per the specifications.

4. Verify that the material used in the door body and its parts is as per the specifications.
5. Verify that color of the door is as specified.
6. Verify if the door is sliding door or rotating door.
7. Check the position, quality and strength of hinges.
8. Check the type of locks in the door.
9. Check the number of locks in the door interior side or exterior side.
10. Verify if the door is having peek-hole or not.
11. Verify if the door is having stopper or not.
12. Verify if the door closes automatically or not – spring mechanism.
13. Verify if the door makes noise when opened or closed.
14. Check the door condition when used extensively with water.
15. Check the door condition in different climatic conditions- temperature, humidity etc.
16. Check the amount of force- pull or push required to open or close the door.

41. Write a Scenario of ATM

1. Check if the ATM slot is working or not.
2. The user should get the unsuccessful operation message by putting the ATM card at the wrong angle.
3. Check unsuccessful operations due to an invalid account Ex: other bank ATM card, or time-expired ATM card.
4. Check the screen of the ATM is as per the requirement document.
5. Check if the texts are visible to the user on an ATM.
6. Check the successful withdrawal operation by entering the valid PIN.
7. Check the entered pin is displayed in the encrypted view.
8. The successfully withdrawn only happens after entering the language, account type, and valid pin.
9. Check the account should be locked on entering three wrong pins.
10. Check whether the transaction fails by selecting an invalid account type and entering the invalid pin.
11. Check unsuccessful withdrawal operations due to wrong denominations in ATMs,
12. Check unsuccessful withdrawal operations due to the amount being greater than the daily limit.
13. Check unsuccessful withdrawal operations due to lack of money in ATM.
14. Check unsuccessful withdrawal operations due to the amount being greater than the possible balance.
15. Check unsuccessful withdrawal operations due to transactions being greater than the daily limit.
16. Check unsuccessful withdrawal operation due to clicking cancel after inserting ATM card.
17. Check unsuccessful withdrawal operation after clicking cancel after inserting ATM card & PIN.
18. Check unsuccessful withdrawal operation after clicking cancel after the ATM insert card, PIN & language.

19. Check unsuccessful withdrawal operation after clicking cancel after inserting ATM card, PIN, language &account type.
20. Check unsuccessful withdrawal operation after clicking cancel after inserting the ATM card, PIN, language, account type & withdrawal operation in ATM Machine.
21. Check unsuccessful withdrawal operation after clicking cancel after inserting ATM card, PIN, language, account type, withdrawal operation &amount to be Withdrawal in the ATM.

42. When to used Usablity Testing?

- Usability testing is typically conducted at various stages of the design process, from initial concept to post-launch evaluation. It involves asking participants to perform specific tasks related to the product or service while their interactions and feedback are observed and recorded.

43. What is the procedure for GUI Testing?

- Check Screen Validations.
- Verify All Navigations.
- Check usability Conditions.
- Verify Data Integrity.
- Verify the object states.
- Verify the date Field and Numeric Field Formats.

44. Write a scenario of Microwave Owen

- Verify that the dimensions of the oven are as per the specification provided.
- Verify that the oven's material is optimal for its use as an oven and as per the specification.
- Verify that the oven heats the food at the desired temperature properly.
- Verify that the oven heats food at the desired temperature within a specified time duration.
- Verify the ovens functioning with the maximum attainable temperature.
- Verify the ovens functioning with minimum attainable temperature.
- Verify that the oven's plate rotation speed is optimal and not too high to spill the food kept over it.
- Verify that the oven's door gets closed properly.
- Verify that the oven's door opens smoothly.
- Verify the battery requirement of the microwave oven and check that it function's smoothly at that power.
- Verify that the text written over the oven's body is clearly readable.
- Verify that the digital display is clearly visible and functions correctly.
- Verify that the temperature regulator is smooth to operate.
- Verify that the temperature regulator works correctly.
- Check the maximum capacity of the oven and test its functioning with that volume of food.

- Check the oven's functionality with different kinds of food – solid, and liquid.
- Check the oven's functionality with different food at different temperatures.
- Verify the oven's functionality with different kinds of container material.
- Verify that the power cord of the oven is long enough.
- Verify that the usage instruction or user manuals have clear instructions.

45. Write a scenario of Coffee vending Machine

- UI scenario – Verify that the dimension of the coffee machine is as per the specification.
- Verify that outer body, as well as inner part's material, is as per the specification.
- Verify that the machine's body color as well brand is correctly visible and as per specification.
- Verify the input mechanism for coffee ingredients-milk, water, coffee beans/powder, etc.
- Verify that the quantity of hot water, milk, coffee powder per serving is correct.
- Verify the power/voltage requirements of the machine.
- Verify the effect of suddenly switching off the machine or cutting the power. The machine should stop in that situation and in power resumption, the remaining coffee should not get come out of the nozzle.
- Verify that coffee should not leak when not in operation.
- Verify the amount of coffee served in single-serving is as per specification.
- Verify that the digital display displays correct information.
- Check if the machine can be switched on and off using the power buttons.
- Check for the indicator lights when the machine is switched on-off.
- Verify that the functioning of all the buttons work properly when pressed.
- Verify that each button has an image/text with it, indicating the task it performs.
- Verify that complete quantity of coffee should get poured in a single operation, no residual coffee should be present in the nozzle.
- Verify the mechanism to clean the system work correctly- foamer.
- Verify that the coffee served has the same and correct temperature each time it is served by the machine.
- Verify that system should display an error when it runs out of ingredients.
- Verify that pressing the coffee button multiple times leads to multiple serving of coffee.
- Verify that there is the passage for residual/extra coffee in the machine.
- Verify that machine should work correctly in different climatic, moistures and temperature conditions.
- Verify that machine should not make too much sound when in operation.

46. Write a scenario of chair

- Verify that the chair is stable enough to take an average human load.
- Check the material used in making the chair-wood, plastic etc.
- Check if the chair's leg are level to the floor.
- Check the usability of the chair as an office chair, normal household chair.

- Check if there is back support in the chair.
- Check if there is support for hands in the chair.
- Verify the paint's type and color.
- Verify if the chair's material is brittle or not.
- Check if cushion is provided with chair or not.
- Check the condition when washed with water or effect of water on chair.
- Verify that the dimension of chair is as per the specifications.
- Verify that the weight of the chair is as per the specifications.
- Check the height of the chair's seat from floor.

47. Write a Scenario of Wrist Watch

- Verify the type of watch – analog or digital.
- In the case of an analog watch, check the correctness time displayed by the second, minute, and hour hand of the watch.
- In the case of a digital watch, check the digital display for hours, minutes, and seconds is correctly displayed.
- Verify the material of the watch and its strap.
- Check if the shape of the dial is as per specification.
- Verify the dimension of the watch is as per the specification.
- Verify the weight of the watch.
- Check if the watch is waterproof or not.
- Verify that the numbers in the dial are clearly visible or not.
- Check if the watch is having a date and day display or not.
- Verify the color of the text displayed in the watch – time, day, date, and other information.
- Verify that clock's time can be corrected using the key in case of an analog clock and buttons in case of a digital clock.
- Check if the second hand of the watch makes ticking sound or not.
- Verify if the brand of the watch and check if its visible in the dial.
- Check if the clock is having stopwatch, timers, and alarm functionality or not.
- In the case of a digital watch, verify the format of the watch 12 hours or 24 hours.
- Verify if the watch comes with any guarantee or warranty.
- Verify if the dial has glass covering or plastic, check if the material is breakable or not.
- Verify if the dial's glass/plastic is resistant to minor scratches or not.
- Check the battery requirement of the watch.

48. Write a Scenario of Lift(Elevator)

- Verify the dimensions of the lift.
- Verify the type of door of the lift is as per the specification.
- Verify the type of metal used in the lift interior and exterior.
- Verify the capacity of the lift in terms of the total weight.
- Verify the buttons in the lift to close and open the door and numbers as per the number of floors.
- Verify that the lift moves to the particular floor as the button of the floor is clicked.

- Verify that the lift stops when the up/down buttons on a particular floor are pressed.
- Verify if there is an emergency button to contact officials in case of any mishap.
- Verify the performance of the floor – the time taken to go to a floor.
- Verify that in case of power failure, the lift doesn't free-fall and gets halted on the particular floor.
- Verify lifts working in case the button to open the door is pressed before reaching the destination floor.
- Verify that in case the door is about to close and an object is placed between the doors if the doors sense the object and again open or not.
- Verify the time duration for which the door remains open by default.
- Verify if the lift interior is having proper air ventilation.
- Verify lighting in the lift.
- Verify that at no point the lift door should open while in motion.
- Verify that in case of power loss, there should be a backup mechanism to safely get into a floor or a backup power supply.
- Verify that in case the multiple floor number button is clicked, the lift should stop on each floor.
- Verify that in case of capacity limit is reached users are prompted with a warning alert- audio/visual.
- Verify that inside lift users are prompted with the current floor and direction information the lift is moving towards- audio/visual prompt.

49. Write a Scenario of whatsapp Group (generate group)

- Check that the user can create a Whatsapp group.
- The user can set a name for the created group.
- Check that the user can add and save the group description.
- Verify that the user can make multiple people as group Admin.
- Check that only group admins can add people to the group.
- Is there any option to mute group notifications for some time?
- Is there any option to add people to the group by sharing a link?
- The admin can delete users from this group.
- Check that admin can change settings like only admin can share information in this group, or everyone can share information in this group.
- If a person is removed from the group, he/she will not be able to see any updates.
- Check that user can exit the group by clicking on the exit button or not.
- Verify that the admin can delete the group.
- Check that are you able to create a group without adding any member.