**1. What is waterfall methodology?**

Waterfall methodology is a step by step non-iterative method in software development process which involves a series of steps going steadily downwards, the steps are: requirements, analysis, design, implementation, verification and maintenance.

**2.BRD FRD and SRD**

**BRD:** Business requirement document is a high level document which consists business needs and acts a guide to the future system to be built, it is a first document in the project, it is usually prepared by BA and it consists of all the requirements needed to complete the project.

**FRD:** Functional requirement document provides all the functionalities required for the developer to develop a project and it is a formal document.

**SRD:** System requirements specification is a set of documents that describes the features and behavior of the system or any product. It is also known as software requirements specification.it is created for organization understanding of the business requirements.

**3.Important tests on sprint bases**

**Regression testing:** Regression testing is a testing done when there is any change in one part of the code without affecting the parts of the software application.

**Integration testing:** Integration testing is done by integrating all the software modules and testing as a group. It mainly focuses on checking the data communication between the modules. Sometimes termed as” I&T” testing or “string testing.”

**4.When to use waterfall method?**

When you have clear view about the project requirements and when the project is small with no similar requirements then you can go for waterfall method.

When the requirements doesn’t change frequently.

**5.Smoke testing:**

Smoke testing is done on a software build to make sure that the critical functionalities of the program is working fine. This test is done to remove any improper functionality so that QA doesn’t waste much time working on it. It is also called **build verification testing.**

**6.Sanity testing:**

Sanity testing is done after receiving a software build with **minor changes in the code** and making sure that the bugs are fixed with no further processing. The goal is to determine that the functionality works well as expected and if the sanity test fails then the build is rejected to save time and money.

**7.In SRD what is the system, environment setup and all specifications?**

**8.When can waterfall methodology be used?**

Waterfall methodology is used for small projects and similar projects.

**9.What is the difference between black box and white box testing?**

Black Box Testing is a software testing method in which the internal structure/ design/ implementation of the item being tested is NOT known to the tester. Black box testing is done after releasing and it terminates the point of testing.

Ex: System testing, Acceptance testing

White Box Testing is a software testing method in which the internal structure/ design/ implementation of the item being tested is known to the tester. White box testing is done before releasing into QA environment.

Ex: Unit Testing

**10.Different types of meetings in agile**

1. Daily stand up meeting
2. Sprint planning meeting
3. Sprint review meeting
4. Sprint retrospective meeting

**11.What are the advantages of agile over waterfall?**

Agile is used for projects which can be done faster and we can rectify project step by step and make changes whereas in waterfall is used for big projects and after completion of one step we can proceed to another step and not efficient for changing business needs.

**Advantages of agile:**

* The customer has frequent and early opportunities to see the work being delivered, and to make decisions and changes throughout the development project.
* The customer gains a strong sense of ownership by working extensively and directly with the project team throughout the project.
* If time to market for a specific application is a greater concern than releasing a full feature set at initial launch, Agile can more quickly produce a basic version of working software which can be built upon in successive iterations.
* Development is often more user-focused, likely a result of more and frequent direction from the customer.

**12.Difference between product backlog and sprint backlog.**

Product backlog in a scrum is a list of user stories which are required to complete a project.

Sprint backlog is a list of tasks identified by a scrum team that need to be completed during sprint.

**13.Briefly describe about different types of meetings in agile.**

**Sprint planning:**

**Daily stand up meeting:** In daily stand up meeting we usually discuss the tasks done yesterday and the work we are going to do on that particular day.

**Sprint Review meeting:**

**Sprint Retrospective meeting:**

**14.When is product backlog and sprint backlog done in agile?**

Product backlog is done during initial stage of the project where the capabilities are divided into user stories these need to be completed in the project.

Sprint backlog is done after product backlog where user stories are divided into tasks and completed in that sprint.

**15.Describe about bug life cycle.**

Bug life cycle or defect life cycle is a set of stages from where bug is detected and until it is fixed.

The following are the states:

**New**: When a defect is identified and posted then it is assigned and given status as new.

**Assigned**: Once the bug is posted, the tester approves the bug and assigns it to the developer.

**Open**: The developer starts working on the defect and how to fix it?

**Fixed**: Making changes to the code and verifying the code is termed as Fixed state.

**Pending** retest: Once defect is fixed by the developer he gives the code to the tester to test the code again, since the test remains pending to the tester it is termed as pending retest.

**Retest**: Tester does the retesting again on the code to check if the developer fixed the defect and this status is called retest.

**16.Who develops test strategy document?**

Test architect

**17.What is requirement traceability matrix?**

It is a document that maps and traces user requirements with test cases. The main purpose of RTM is to see that all test cases are covered so that no functionality should miss during testing.

**19.Who designs test plan strategy and test plan?**

Test architect designs test plan strategy and test lead designs test plan.

**20.Overview of agile**

**21.Difference between theme, epic and user stories.**

Theme: Cluster of user stories

Epic: Large user stories are called epics and it is stand alone.

User stories: The essential requirements for a project.

**22.What are the disadvantages and advantages of agile?**

Advantages: It requires less number of iterations and hence project can be completed within less span of time.

Parallel processing can be done.

We can get feedback.

Disadvantages:

It cannot be used for long term projects.

**23.What are the various artifacts(deliverables) for waterfall?**

BRD, FRD AND SRS.

**24.Difference between unit testing and integrated testing.**

Unit testing: This testing is done by developer and here individual units are tested.

Integrated testing: Here individual units are formed as a group and tested and it is done by QA.

**25.Diference between done and fixed.**

If a defect is identified then it is assigned to a developer. This is fixed state.If a bug testing is completed then it is done state. This is done by QA.

**26.Difference between build and release.**

Build: Executable file send to the developer

Release: After done we release the file to end users.

**27.Scrum meeting:** Scrum meeting is usually done every day and here they give the updates of the project day to day.

**28.What happens in retrospective meeting?**

In retrospective meeting the scrum master discusses on what happened on the iteration and further steps taken for improvements in the iteration.

**29.What is the role of scrum master?**

The scrum master makes sure the scrum lives by its value and practices like facilitating meeting, making sure that the project goes well, making impediments to the sprint, working with the product owner to make sure that the product backlog is in good shape and ready for next sprint.

**30.User acceptance testing**

This is the last phase in the software testing process. During UAT the software users test the product and check whether it can handle real word scenarios according to the specifications.

**31.What are the points to be spoken in agile meeting?**

**32.How the user story points are assigned?**

Based on the severity and requirement of the product the user stories are assigned like first the necessary user points are assigned and later on the remaining are assigned.

**33.Priority and severity**

Severity: Severity of a defect refers to how severe a bug is. Usually it refers to terms of financial loss, damage to environment, company’s reputation and loss of life.

Priority: It refers to how quickly a bug should be fixed and deployed to live users.

**34.How do you report a bug to a developer?**

* First we need to reproduce the bug to make sure the bug exists.
* Then we need to reproduce the same bug with same input data in peer machine.
* We need to take approval from the team lead and need to report the bug.
* We need to report the bug either manually or using automation tool.
* In TFS tool add a bug to a product backlog giving priority. Also add environment application. Describe what type of bug it is. Take a screenshot. Add a test case and add which step it is failing.
* Without using project management tool: Send an e-mail to the whole team like stating the environment of the bug, etc.

**35.What are the columns present in test case template?**

Test ID

Description

Actual results

Expected results

Status

Remarks

**36.What is boundary value analysis?**

Boundary value analysis is a black box testing technique in which errors are find at the boundaries of the input data rather than finding at the center of the input data. The basic idea of boundary value is to select input variables at their: min, min+, min-, max, max+, max-.

**37.What is equivalence class portioning?**

It is a black box testing technique which can be applied to all levels of testing like unit, integrated, system. This technique divides the input data into partitions (i.e valid and invalid data) of equivalent data from which test cases are derived.

**38.How to validate during database testing?**

**39.What is entry and exit criteria?**

Entry criteria: Pre-conditions that need to be met before testing can be started.

Exit criteria: Conditions that need to be met before closing a test case.

**40.What are the different levels of testing?**

Unit testing

Integrated testing

System testing

User acceptance testing

**41.Regression testing:**

It is a software testing done when there is change in the code and making sure that the change doesn’t affect the existing code and it’s functionality. This is done to ensure that the functionality works well.

**42.Triage meeting (Conflict resolution meeting)**

Triage meetings are project meetings in which an open bug is divided into categories and discuss about the conflicts in the project. In this meeting either developer or tester may compromise with respect to the issue.

**43.Differnce between smoke test and sanity test.**

Smoke test is done on a software build to make sure that the functionalities are working well. On the other hand sanity test is done after releasing software build with minor changes in the code and making sure that the bug is fixed with no further issues.

**44. Roles in a scrum:**

**Product owner**:

He defines the features of the product.

He is responsible for the profitability of the product.

He decides the release dates and responsible features.

He can accept or reject the work result.

**Scrum master:**

He is responsible for managing the team and checks whether the team is yielding a good output.

He co-ordinates with the product owner and arranges meetings.

He maintains block lists and removes barriers among the team members.

He is invited to the daily scrum, review and retrospective meetings.

**Agile team:**

The team usually consists of 5-9 members.

It includes developers, testers and some designers.

The team organizes and schedule their work on their own.

They have the right to do anything to achieve the goals of the project .

They actively participate in daily ceremonies.

**45.Priority:**

Refers to the state how quickly the bug should be fixed and deployed to the users.

Priority can also be referred as how important the bug to be fixed for the client.

**u46.Severity:**

It refers to a state how severe a bug or defect is.

Severity can also be referred as how important the bug to be fixed for the tester.

**47.Test case for login page:**

**48.Difference between regression and retesting.**

Regression is done in software testing to modify any changes in software testing and making sure that the change doesn’t affect the functionality of the overall code.

Retesting is done when a bug after testing comes back to us with certain flaws in it and tester tests it again.

**49.Spike story:**

During sprint a new story may be introduced which the development team may not be aware but it is important to do.

**50.Define velocity of sprint.**

Velocity refers to the amount of work done by a team. It is done by totally the points for completed user stories.

**51.What is functional and non-functional test?**

Functional testing is a quality assurance process and a type of black box testing in which test cases are based on the specifications of the software product under test. It is done to ensure that the product conforms all the requirements.

Examples: unit, sanity, smoke, integration, interface, system, regression, UAT.

Non-functional testing is a software testing which describes the system requirements and system behavior. The functionalities include performance, endurance, load, volume, scalability, usability and so on.

Examples: Reliability, usability, efficiency, portability, baseline, load testing.

**52.Alpha and Beta testing:**

Alpha and beta testing are the two phases in user acceptance testing(UAT):

Alpha testing is a type of acceptance testing performed to identify all the bugs before releasing the product every day to users or public.

Beta testing is performed by real users in real world environment of software application and can be considered as a form of end user acceptance testing. It is released only to few users to check it’s functionality on how it is working. This reduces risks and failures. This is the final testing before shipping product to customers.

**53.When is agile testing done?**

If three or more functionalities need to be implemented then agile testing is done. It is also done for small and similar kind of projects.

**54.Different test design techniques.**

Boundary value analysis

Equivalence class partitioning

Decision table testing

State transition diagrams

**55.Difference between verification and validation.**

Verification: Process of checking whether the software is meeting the specifications of the requirements

Validation: Process of checking whether the specifications is meeting the customer needs.

**56.Difference between up-stream and down-stream applications.**

In up-stream applications system sends the data to the collaborative server systems.

In down-stream applications system receives the data from the collaborative server systems.

**57.Difference between error, defect and failure.**

A mistake in coding is error.

Error found by testers is defect.

Defect accepted by a development team is a bug and if it does not meet the requirements then it is a failure.

**58.What is producible and non-producible defect?**

If a defect is appearing in every execution system then it is producible defect. Here we write steps for every defect.

If a defect is not appearing in every execution but appears sometimes then it is non-producible defect. We provide screenshot.

**59.Gap analysis:**

Gap analysis involves the comparison of actual performance with the desired performance. If an organization does not make the best use of current resources or proceeds further in capital investment then the organisation will not yield the best outcome.

**60.How to write test scenario?**

A testing scenario is any functionality that can be tested.

Read the documents like BRD, SRS, FRD

**61.How to test mobile?**

**62.What is selenium grid?**

Selenium grid is used to speed up the execution of a test pass by using multiple machines to run test in parallel. Selenium grid also supports running tests against multiple runtime environments, specifically against different browsers at same time.

**63.How to configure multiple instances?**

**64.What are the challenges faced during testing?**

**65.How do you do test estimation?**

**66.What is work break down structure?**

Dividing the user stories into small tasks and start working on them.

**67.Different stages in SDLC.**

Requirements, Analysis, Design, Coding, Testing, Maintenance.

**68.Different stages in STLC.**

Test planning

Test design

Test case development

Test execution

Test closure

**69.What is show stopper bug?**

A show stopper bug is a bud that causes to stop in implantation and becomes useless. This bug should be fixed to prevent further development process.

**70.When should we stop testing?**

If there is no bug then we can stop testing.

**71.What is performance testing?**

Testing the performance of the application is called performance testing.

If it takes more than 3 seconds to execute then it a bug.

For each field positive and negative testing should be performed.

**72.What are the objectives behind writing and executing the test cases?**

Find the defects in the software products.

Verify the software needs by end user.

Improve the software quality.

**73.Different test plan types:**

**74.How will you check that the test case cover all the requirements?**

Using the requirement traceablity matrix

**75.Explain different modules of quality centre.**

Release module

Requirement module

Test plan

Test resources

Test lab

Defect module

**76.What is impediment?**

Something obstructing you to test .

**77.What is compatibility testing?**

Software will be tested on all browsers and checking compaitability.

**78.Defect age:**

How long it takes to test an error.

**79.Knowledge transfer:**

Understanding the requirements of the project.

**80.Secure testing:**

Testing authentication and authorisation.

**81.What is agile?**

Agile is a software development methodology in which software is build incrementally based upon sprint basis using short iterations of 1-4 weeks, it is more efficient with changing business needs and a workable product can be delivered in a short period.

**82. What are different levels of testing?**

Ans: Different levels of testing are :

1. Unit testing
2. Integration testing
3. System testing
4. User acceptance testing

**83. What is Unit testing?**

Ans: Testing individual unit of code to ensure the individual units met the requirement and functionality generally performed by the developers before moving the code from the development environment to the testing environment(before handed over the code to testers)

**84. What is Integration Testing?**

Ans: Testing performed after combining the individual modules together so that the flow of data between the modules or communication between the different module is functioning properly after the integration is done.

This Integration testing is done in 3 ways:

1. Top down approach
2. Bottom Up approach
3. Mixed or sandwich approach
4. Big bang approach

**Bottom Up Integration approach:** this testing begins with unit testing, followed by tests of progressively higher-level combinations of units called modules or builds.

**Top down approach:** In this testing, the highest-level modules are tested first and progressively, lower-level modules are tested thereafter.

**Mixed or Sandwich:** It is a combination of top down and bottom up approach.

**Big bang Approach:** In **Big Bang** integration **testing** all components or modules are integrated simultaneously, after which everything is tested as a whole. In this **approach** individual modules are not integrated until and unless all the modules are ready.

**85. What is System Testing?**

Ans: System testing tests the system as a whole. Once all the components are integrated, the application as a whole is tested rigorously to see that it meets the specified Quality Standards. This type of testing is performed by a specialized testing team.

System testing is important because of the following reasons:

* System testing is the first step in the Software Development Life Cycle, where the application is tested as a whole.
* The application is tested thoroughly to verify that it meets the functional and technical specifications.
* The application is tested in an environment that is very close to the production environment where the application will be deployed.
* System testing enables us to test, verify, and validate both the business requirements as well as the application architecture.

**86.What is User Acceptance Testing?**

Ans: UAT is done by the UAT team by users actions perspective.

User acceptance testing (UAT) is the last phase of the software testing process. During UAT, actual software users test the software to make sure it can handle required tasks in real-world scenarios, according to specifications.

UAT is one of the final and critical software project procedures that must occur before newly developed software is rolled out to the market.

UAT is also known as beta testing, application testing or end user testing.

Alpa Testing:It is done in a closed environment where the software is tested by releasing it to limited group of people usually known as pivot group.