1.Explain SDLC at a high level

SDLC is the acronym of Software Development Life Cycle and it is a process used by the software industry to design, develop and test high quality software. It consists of a detailed plan describing how to develop, maintain, replace and alter specific software.

The general Phases in SDLC

* **Planning Stage** :- Here we’re putting together all the requirements needed to complete the Software or project we want. And also we’ll be discussing the approximate time, budget and resources. Generally it is a feasibility study.
* **Requirements Analysis** :- This is the most important phase of SDLC ,because this is when the project team begins to understand what the customer wants from the project. During the analysis phase, the project team needs to ensure they can deliver the requirements.
* **Designing** :- Here in this phase, the developers and software architects start designing the software after they have identified the requirements.
* **Coding** :- Here the developers will start constructing the whole framework for the software using a programming language.
* **Testing** :- Here in this phase , after completing coding the testing of the software begins
* **Deployment** :- In this phase the software is deployed to the manufacturing environment and the users can start using the software.
* **Maintenance** :- This is the final phase. When the software passes through all the phases without any complications, a maintenance cycle is to be performed were the updation and modifications of the software happens.

2. What is waterfall and why it is still relevant

Waterfall model is a sequential model following Top-Down approach. It is one of SDLC models. There is no ‘back-flow’ in waterfall model. We’ll not be able to go back to a phase without completing the entire phases. This is one of the drawback of waterfall model but it is still relevant because progress of each part can be easily measured and it doesn’t cost much money.

3. Explain Agile Model with a use case and the role of SCRUM in that

Agile Model is one of the SDLC model. In agile model, the entire project is divided into small incremental units and all these units are provided in iterations. And each iteration lasts a couple of weeks.

Let’s imagine we’re developing a project, and the project is divided into 10 units. All the 10 units are processed in each iterations and each iteration is set to last for four weeks. And the developer team was not able to complete some units processing, that’ll be taken care in the next iteration. This is also how SCRUM works (SCRUM follows Agile methodology). In SCRUM each iteration is called a SPRINT and at the end of each SPRINT, we’ll have a potentially deliverable software.

4. Who is Scrum Master

Scrum Master allows a team to self-organize and make changes quickly. Scrum Master manages the functioning of entire team. And a Scrum Master give space for their team members to organize their own.

5. Differentiate between Product/Sprint Backlog

**Product Backlog** :- It is the list of all items that need to be completed for developing the product. The product owner collects backlog from customers and assigns to the team. It is completely independent of the sprint backlog. And the product backlog will be maintained until the entire project completion.

**Sprint Backlog** :- It is the list of items that need to be completed in the Sprint .The team collects the backlog from the Product Owner and decide the time frame to complete it during each sprint. Sprint back log is the set of Product Backlog, so it is completely dependent on the product backlog. Every new sprints will get new backlogs which is added by the team.

6. What is Epic & Story

Epic is a large body of work that can be broken down into smaller parts called “stories”.

7. What is called Velocity in SCRUM

It is the capacity of a team to complete one Sprint

8. Explain the SCRUM ceremonies

These are events which occurs inside each sprint. They are;

* Organizing backlog :- Here we’ll be listing all the stories of the product and with the help of Scrum master we’ll be organizing it as a backlog.
* Sprint planning :- Here we’ll be assigning the stories which need to be processed in each Sprint
* Daily Scrum :- Here scrum master organizes daily meetings with the team for discussing their progress, issues they face etc.
* Sprint Review :- This is a meeting that takes place at the end of the sprint were product owner ,scrum master, stakeholders, developers etc will be discussing/analysing just completed features of a particular sprint
* Sprint Retrospective :- This is another meeting where the scrum master go for an overall analysis to check what are the failures happened, what were the methodologies that they didn’t follow etc.

9. What is grooming

It is a process where the product owner and the team review item on the backlog for ensuring the backlog contains appropriate items , they are prioritized , and the items at the top of the backlog are ready for delivery.

10.How Jira board is effective in SCRUM

Jira board is a flexible way of viewing, managing, and reporting on a work in progress. Developers can use jira board for planning their work in sprint. And it includes backlog

11. Differentiate between SCRUM and waterfall

In SCRUM it is possible to review sprints in development process so it saves time and money. But in Waterfall reviewing is done at end results, if it found inappropriate the process is taken back to the first level

In scrum work is divided in teams as an individual responsibility. But in waterfall, work is divided into phases.

SCRUM is effective in complex/difficult projects. But waterfall is effective in smaller projects .

We can’t add changes in every stages of waterfall unless Requirement gathering phase. But Scrum welcome changes at early/late stage during the development.

12.Explain the responsibilities of Product Owner

The main goal of Product Owner is to represent the customer to the development team. The responsibilities include;

* Managing and making the necessary product backlog(prioritized list of requirements) and give it to the development team
* Being available to the developer team to answer any questions by the team members regarding product development