

Sub code & Sub Name: 23CAE718 AGILE SOFTWARE DEVELOPMENT

Class & Semester: I MCA & II Semester

Unit V - 2 Marks

1. What are some popular Agile certifications?

- PMI-ACP Certification
- Scrum Master Certification
- Certified Scrum Master Certification
- Prince 2 Agile Certification
- Scrum Product Owner Certification

2. Discuss the differences between Agile and traditional Project Management (Waterfall).

While traditional methodologies include different project life cycle phases, agile emphasizes iterative project implementation approaches.

3. What are Agile frameworks?

Other than Scrum, there are various alternative frameworks, including Test-Driven Development, Feature-Driven Development, and Kanban.

4. When should you use Waterfall over Scrum?

Typically, Waterfall is employed when the requirements are straightforward, completely specified, predictable, understandable, and permanent.

5. How long does the scrum cycle last?

The length of the Scrum cycle is determined by the size of the team and the project; it typically takes 3 to 4 weeks to complete.

6. What is the scrum of scrums?

A separate meeting, known as a Scrum of Scrums, must be planned to coordinate among several teams. In the scrum of scrums, an ambassador speaks on behalf of their squad.

7. Define epic, user stories, and tasks?

User Stories: Delivered throughout a specific sprint, user stories are created based on the client's perspective, such as project or business functions.

8. What is test-driven development?

This approach involves a developer writing an automated test case that describes the new function, writing little code to pass the test, and then re-factoring the new code to comply with the required standards.

9. What do you mean by scrum poker technique or planning poker?

The general agreement-based card-based estimation method is called scrum poker or planning poker. Among its characteristics are the following:

- The client must read the agile user's story as the first step.
- The estimator then comprehends the features.
- Each estimator has a distinct planning card with a different set of numbers on it. The various numbers represent the plot points.
- This procedure is carried out repeatedly until a consensus is obtained.

10. What do you mean by the disadvantages of the Agile Model?

The disadvantages are:

- You will have trouble calculating the effort needed for a large project if one is assigned.
- It's not always best to concentrate on documentation and design.

11. What is the right moment to use the agile model?

Lean software development, feature-driven development, dynamic development, and crystal approaches are a few methodologies and innovations that can employ agile.

12. What do you mean by release candidate?

A code, version, or build—known as a release candidate—is released to guarantee that no significant issues remain during the final development stage. This is used for testing and is the same as the finished build.

13. Differentiate between agile testing methods and other testing methods?

The code is broken into smaller pieces in the main agile testing cases. Each code branch is tested at one particular time. On that section of the code, the communication is ongoing.

14. What is Zero sprint in Agile?

The first sprint's pre-step is known as a zero sprint.

15. What does story point mean in the scrum?

A story point is the scrum term for the unit used to estimate the time needed to complete or implement a backlog.

16. Why are user stories not estimated in working hours?

It is not required to estimate user stories in terms of man hours because doing so would indicate a subpar product being supplied to the client. However, the budget and administrative costs are given more consideration regarding working hours.

17. In which process a Scrum master recommends follow-up action items?

Establishing a follow-up of the work that needs to be done by the team members is the best way to follow up on action items. Additionally, the scrum master will compile this data.

18. What are the most critical agile Matrices?

The most important agile matrices are listed below:

- Velocity
- Work category allocation
- Defect removal awareness
- The cumulative flow diagram

19. What are the essential qualities a good Agile tester should have?

A qualified Agile tester must possess the following qualities:

- Should swiftly comprehend the requirements
- Must be well-versed in the concepts and practices of Agile.

20. Mention the challenges involved in developing Agile Software?

The significant difficulties encountered when creating Agile Software include:

- more customer interaction and testing
- management is more affected than developers
- More preparation is needed.

21. When not to use Agile?

You can ditch Agile in the following circumstances:

- Your team does not understand Agile
- Your team is resisting Agile
- Expectations do not support agile

22. Explain what it means by product roadmap?

A product roadmap is a source of truth used by all parties to describe a product's long-term goals, priorities, and progress.

23. What is the product burndown chart?

A project management chart called a burndown chart demonstrates how rapidly a team is moving through a customer's user stories.

24. What is a sprint burndown chart?

This graph shows the number of completed and uncompleted sprints in the scrum cycle.

25. What is the Release burndown chart?

A release burndown chart summarizes the release progress by displaying the remaining workload at the end of every sprint versus the ideal workload.

26. How is the velocity of the sprint measured?

Work is complete if capacity is expressed as a percentage of 40-hour workweeks: $\text{story points} * \text{team capacity}$. If the capacity is expressed in terms of man-hours, then the team's capacity is expressed in story points.

27. Are there any agile certifications?

The following list of agile certifications and scrum certifications:

- ACP (Agile Certified Practitioner)
- ASM (Agile Scrum Master)
- Safe Agilist
- CSM (Certified Scrum Master)
- PSM (Professional Scrum Master)

28. What are the major agile quality strategies?

These are the main strategies:

- Small feedback cycles
- Re-factoring
- Iterations
- Analysis of dynamic code

29. Define Product backlog and Sprint backlog.

The project owner keeps a product backlog that includes every requirement and product feature. A Sprint backlog is viewed as a subset of a product backlog that only includes needs and features pertinent to one specific sprint.

30. What is Pair Programming, and what states its benefits?

Pair programming is a method where two programmers collaborate. The work of one coder is reviewed by the other.

Benefits: Smooth knowledge transfer. The codes and tactics can be taught to another partner by an experienced partner.

Code quality: The likelihood of errors occurring will decrease as the second partner simultaneously reviews the code.

31. What is refactoring?

Refactoring is making changes to code without altering its functionality to increase performance.

32. How can QA add value to an agile team?

By considering various scenarios differently, QA adds value to the story. It gives the developers swift feedback on whether the new functionality is operating as intended.

33. What is the Application Binary Interface?

Application Binary Interface describes the low-level interface between an application and the operating system or the interface to compile application applications.

34. What is a tracer bullet?

Tracer Bullet investigates how an end-to-end process functions and looks at its viability. With the existing architecture or set of procedures, it is the spike.

35. What is the increment? Explain.

The sum of every product's backlog items during a sprint is known as the increment. Since they are cumulative, each increment comprises the values from the previous sprint increment. As it is a

step toward achieving the aim, it should be configured to be in the available mode in its upcoming release.

36. How to manage remote teams?

Utilizing remote project management solutions can enable you to manage your remote team effectively while using outsourced resources. It assists you in managing people, tools, and resources and gaining their support.

37. What is meant by the sprint retrospective meeting?

It is the meeting held following the sprint review meeting and takes place in the last stages of the sprint. This conversation lasts for two to three hours and will involve the entire team.

38. Can we apply agile methodologies to other testing apart from development and software testing?

Agile file testing approaches can be used in the biomedical, biophysical, and biochemical fields and other areas where there is a lack of data and a small team is required to finish the project.

39. What does the term impediment mean?

An impediment prevents the team from working efficiently and hinders their ability to complete tasks more effectively.

40. What do sprint planning meetings do?

A sprint planning meeting gathers the whole scrum team, including the product owner, scrum master, and other team members. It is planned to discuss the items on the product backlog and the key team characteristics.

41. Mention the places where the Scrum and Kanban methodologies are used?

Scrum is used when switching to the most visible and relevant methodology is necessary. Kanban is deployed when there is a need to enhance an operating process with few adjustments.

42. What are the essential qualities to have as a Scrum Master?

The main characteristics of a Scrum Master are sharing knowledge and comprehending the goals and objectives.

43. What do you mean by planning poker or scrum poker technique?

The characteristics of planning poker include the following:

- The client must first read the agile user's story. The estimator then comprehends the features.
- Each estimator has a distinct planning card with a unique set of numbers. The different numbers represent the story points.
- This procedure is carried out continuously until an agreement is obtained.

44. What is the right moment to use the agile model?

Certain approaches and projects can use agile, including lean software development, dynamic development, and crystal methodologies.

45. How do agile testing methods differ from other testing methods?

The code is divided into smaller branches when using an agile testing methodology. Each specific unit of code is tested at the same time. In that section of the code, communication is continuing as well.

46. Is it possible to apply agile methodology to other testing apart from software testing and development testing?

The file testing methodology can be used in the fields where there is a lack of data and a small team is required to finish the project.

47. How to know that you are using agile development?

You are adopting agile development when you use a time-boxed task board, pair programming, daily stand-up meetings, test-driven development, and other practices.

48. Describe the main roles in the scrum.

Scrum team: Responsible for organizing a group effort to finish a specific assignment.

Scrum Master: is in charge of putting the scrum team's final product on paper.

Product owner: In charge of outlining the entire idea for the product and communicating it to the team.

49. What does build breaker mean?

Sometimes a software flaw is unintentionally introduced by the developer. This flaw could cause warring or stop the compilation process. It is the root of failure when testing is carried out normally. It is deemed that the build is broken in such circumstances.

50. What are the places where Scrum and Kanban are used?

Scrum is used when it's necessary to move toward a suitable and noticeable method. Kanban is employed when process improvement is required, provided that there aren't many changes.

51. Can agile methodology also be applied other than software testing and development projects?

In the fields of biophysics, biochemistry, and biomedicine, agile methodology can be used in a range of situations, such as when there is a lack of data when a small team is required to complete the project when the nature of the job is uncertain, and in several other situations.

52. What are the major Agile components?

The major Agile elements are:

- Pair programming, continuous deployment, test-driven development, etc.
- Collaboration cards and class responsibilities
- stand-up meetings daily

53. What is the process in which a master recommends following up on action items?

The best way to accomplish this is by creating a follow-up of the job the team members are expected to complete.