

Quiz 1, Fall 2024
CSE470: Software Engineering (Sec-16)
SET- A

Name:

ID:

Total Marks: _____ / 20

Time: 25 minutes

Short questions (CO1)

1. Write down four principles of Extreme Programming (XP). [3]
Incremental planning, Small releases, Simple design, Test-first development, Refactoring, Pair programming, Collective ownership, Continuous Integration, Sustainable pace, On-site customer
2. Briefly describe what is a product backlog. [3]
A product backlog is where the product owner stores the requirements of a project. It is usually expressed as a list of user stories, and the "story points" are prioritized by the product owner and can be reprioritized before a new sprint.

MCQ (CO1)

1. Adding participants in a video is a - [1]
☐ Nonfunctional requirement ☒ Functional requirement
2. Which of the following is a Test First Development methodology? [1]
i. ~~Scrum~~
ii. XP
iii. ~~Waterfall~~

Scenario (CO1)

3. The MIS department of "Amader Oil Corp" found a complex challenge that requires management and efficient handling of a valuable task. So that the team realized the necessity of a software solution. After careful consideration and thorough research, the MIS department chooses "OUR IT," a renowned company for delivering innovative solutions. Both organizations quickly decided to collaborate. As the study progressed, the MIS department discovered that the project's requirements were well-defined and manageable. As time was limited, getting all the software up and running as soon as possible was essential. Sumon Ahmed, the team lead at "OUR IT," assured the MIS department that OUR IT already had a team of highly skilled engineers who were all well-trained and ready to tackle the project's challenges. Moreover, Sumon added that the technological support needed for the task was also available and stable within their company. The Oil Corp also ensured they were sure about their initial analysis and wouldn't change any features in the development phase. Thanks to the efficient coordination, the software solution was delivered well within the timeframe.
 - a. What considerations does "Amader Oil Corp" consider when developing a software solution? [2]
Ans:
Defined requirements, timely delivery, technological stability, and requirement stability.
 - b. Which SDLC should Sumon select for the software development, and justify your choice? [5]
Ans:

Sumon should select the waterfall model.

The project requirements are precise and not expected to change, making the Waterfall model a good choice. Its step-by-step process works well for projects that need to be completed quickly. Since the MIS department promised not to change the requirements, the model's strict structure won't be a problem. Also, the skilled team at OUR IT is ready to handle the work, making this approach practical and effective.

- c. After 3 days of work, the head of Oil Corp. expressed a desire to incorporate additional functionalities into the software. Based on the selected model, is it feasible to implement these changes? Justify your response. [3]

Ans:

In the Waterfall Model, adding new functionalities during development is not feasible without causing significant disruption. Each phase must be completed before moving to the next, so introducing changes would require revisiting earlier stages like requirements or design. This process can be time-consuming and costly, potentially affecting the project timeline. Furthermore, both teams agreed to keep the features stable during development, aligning with the Waterfall Model's structured approach and minimizing the risk of delays or complications.

- d. If the team decides to create documentation after the development, what are the advantages and disadvantages of the chosen model in the above scenario? [2]

Ans:

Advantages –

1. Simple and easy to use
2. Stages go sequentially so that no sudden changes can create confusion

Disadvantages –

1. There is no way to verify the design
2. Code reuse is not possible