

- ① What is a software development methodology, and why it is important in the software development process?

A process by which developers design, implement and test new computer.

- ④ What are the challenges and considerations when selecting and implementing a specific software development methodology for a project.

Challenges.

- \* Unestablished project infrastructure.
- \* Keeping up with changing requirements.
- \* Quality Assurance.
- \* Undefined quality standards.

Considerations.

- \* The type and size of the project.
- \* Development techniques and tools.
- \* Development risks.
- \* IT Teams' capacity.
- \* Experienced developers and correct team structure.

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- ② What is the main difference between traditional (Waterfall) and iterative (Agile) Methodologies?

(Sequential)  
Waterfall method is a linear system of working that requires the team to complete each project phase before moving on to the next one while Agile encourages the team to work simultaneously on different phases of the project. Agile advocates iterative development cycles in which multiple lifecycle phases can run in parallel.

Furthermore;

Waterfall method values quality over speed but Agile

Table

Waterfall method is <sup>not</sup> flexible for the client's requirements

method values to go after the rapid changes of market. (Need for speed)

In waterfall methods requirements are clear and settled but in Agile requirements are uncertain.

minimal documentation

Agile allows for progressive elaboration of the plan while Waterfall method follows the plan developed at the beginning of the project.

⑤ What are the key components of the Scrum framework in Agile methodology?

A scrum framework contains;

\* The roles: Scrum master, scrum product owner (scrum team) and the scrum team.

\* Development team

\* The sprints: sprint planning, sprint review, sprint backlog, sprint retro, Daily scrum.

\* scrum events; Sprint planning events, daily scrum meeting, sprint review meeting, sprint retrospective meeting.

Agile is iterative and flexible

⑤ What is agile methodology and what are its key principles and values?

Agile methodology is a project management approach that involves breaking the project into phases and emphasizes continuous collaboration and improvement.

core values and principals of Agile methodology;

- 1) Emphasized teamwork and communication.
- 2) Working software over comprehensive documentation.
- 3) Customer collaboration over contract negotiation.
- 4) Responding to change over following a plan.

⑥ Find the 12 principles of Agile