**IT 115 Assignment: Software Development Practices**

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Please answer the following questions:

1. Name at least 2 advantages of iterative (scrum/agile) development?

* Reduced time between Planning and Shipping viable product
* Allows for faster response to changes in requirements or technology

1. What's the purpose of a user story?

User Stories are written in a way that explains a business requirement to developers in a way that ensures they understand what they are to develop, for what purpose, and for whom. They are concise and contain just enough information for the Product Owner to explain to the team so they can estimate the size of the tasks needed to complete a user story.

1. What is the SCRUM Master's role on a SCRUM team?

A Scrum Master acts as a servant-leader for the Scrum Team. They facilitate Scrum ceremonies and protect team from interruptions, allowing them to stay focused on development and testing during a sprint. They also help to resolve any impediments that may be blocking progress toward task completion.

Scrum Masters also act as coaches, guiding the team in self-management, promoting effective Scrum practices, and helping their team understand and implement the Scrum framework.

1. How long are SCRUM Sprints?

Sprints can be anywhere from 1 to 4 weeks long, depending on the project or the team. What is important is that sprint lengths be consistent throughout the entire project so the scrum master can measure team velocity and accurately forecast delivery of project milestones to executive leadership.

1. Describe SCRUM estimation technique & types of estimation techniques used?

Teams may choose from several estimation techniques such as:

* Planning Poker
  + Uses numbered cards for estimates
  + Promotes discussion and consensus among team members
  + Based on the Fibonacci sequence
* T-Shirt Sizing
  + Uses relative sizes (S, M, L, and XL)
  + Simplifies initial estimation process
  + Good for quick, high-level estimates
* Story Points
  + Measures the overall effort required
  + Considers complexity, risk, and work involved
  + Relies on relative estimation of a known level of effort for a small component to be built.

1. Why is documentation very important to a SCRUM team?

Documentation serves several critical purposes such as

* providing transparency, which ensures clear understanding of project status and maintains visibility of requirements and progress
* knowledge sharing, which facilitates onboarding of new team members and preserves institutional knowledge
* enforcing compliance and traceability through a record of decisions and changes which are essential for audit and compliance purposes.

1. What is decomposition in SCRUM? Why are tasks broken down into smaller components?

Decomposition is the practice of breaking down User Stories into small tasks that can be more easily completed. This is important because it allows for:

* Improved planning by enabling more accurate estimation, facilitating better sprint planning, and reducing complexity and uncertainty
* Enhanced execution by increasing team focus, enabling parallel work streams, and improving progress tracking, and
* Risk Management by allowing earlier identification of potential issues, better handling of dependencies, and a more precise effort estimation.

(Decomposition begins further upstream when the project is being defined. Projects start out with a list of major development goals called Epics, which contain sets of specific functionalities called Features, each of which contains many User Stories that are further broken down into Tasks.)

