



UCSC

University of Colombo, Sri Lanka

University of Colombo School of Computing



**DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY
(EXTERNAL)**

Academic Year 2022 — 2nd Year Examination — Semester 4

IT4406 — Agile Software Development

Part 1 - Multiple Choice Question Paper
(1 Hour)

Important Instructions

- This paper has **two (2) parts, Part 1 and Part 2**.
- The duration of this part (Part 1) is **1 Hour**.
- The medium of instructions and questions is English.
- This paper has **25 questions on 8 pages**. Answer **all** questions.
- All questions are of the **MCQ** (Multiple Choice Questions) type.
- Each question will have **5 (five)** choices with **one or more** correct answers.
- This paper consists of 100 marks and all the questions will carry equal marks.
- There will be a penalty for incorrect responses to discourage guessing.
- The mark given for a question will vary from -1 (All the incorrect choices are marked & no correct choices are marked) to +1 (All the correct choices are marked & no incorrect choices are marked). However, **the minimum mark per question would be zero**.
- Answers should be marked on the **special answer sheet** provided.
- Note that questions appear on both sides of the paper. If a page is not printed, please inform the supervisor/invigilator immediately.
- Mark the correct choices on the question paper first and then transfer them to the given answer sheet which will be machine marked. **Please completely read and follow the instructions given on the other side of the answer sheet before you shade your correct choices.**
- Calculators are **not** allowed.
- *All Rights Reserved*. This question paper can NOT be used without proper permission from the University of Colombo School of Computing.

- 1) Which of the following characteristics is ideal for projects that can be developed using Rapid Application Development?

- (a) High level of user involvement
- (b) Have well-defined requirements
- (c) Require extensive documentation
- (d) Require a linear development process
- (e) Unlikely to undergo any significant change

- 2) Which of the following is a *core principle of Agile Development*?

- (a) Comprehensive documentation
- (b) Strict adherence to the original plan
- (c) Responding to change over following a plan
- (d) Separate teams for development and testing
- (e) Contract negotiation over customer collaboration

- 3) Which of the following statement(s) is/are correct regarding *Agile Development*?

- I. Development should be phased-based and sequential.
- II. Favor an adaptive, exploratory approach.
- III. Focus on idle work, not idle workers.

- (a) I Only
- (b) III Only
- (c) I and II Only
- (d) II and III Only
- (e) All I, II, and III

- 4) Which of the following statement(s) is/are correct regarding *validated learning in Agile Principles*?

- I. Tolerant of late learning, so fast feedback is not a focus.
- II. Identifies and exploits feedback loops to increase learning
- III. Tries to minimize the number of important assumptions that exist at any time.

- (a) I Only
- (b) II Only
- (c) I and II Only
- (d) II and III Only
- (e) All I, II and III

- 5) Label [X] in Figure 1 shows the point where the scrum team makes a decision when the cost of not making a decision becomes greater than the cost of making a decision.

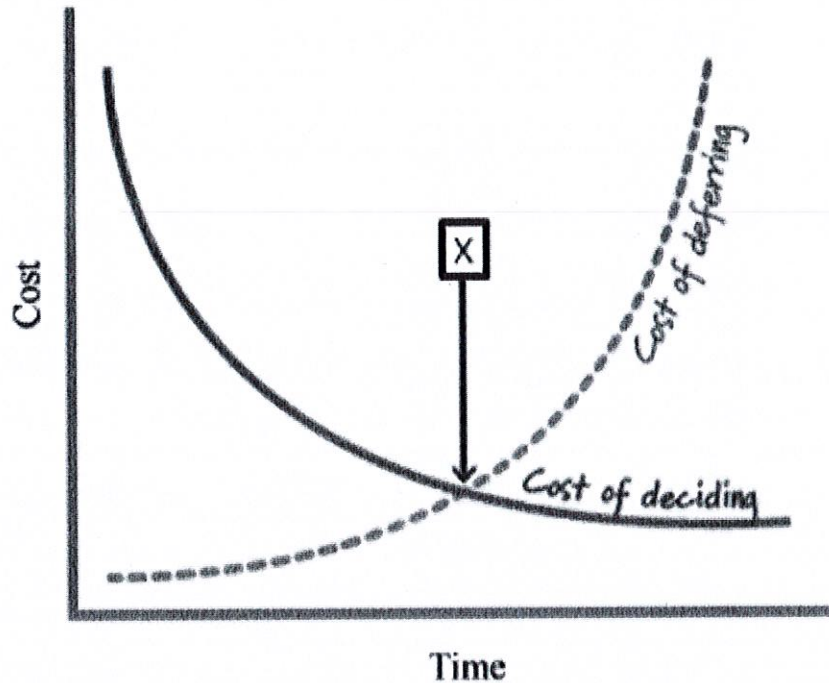


Figure 1

Source: *Essential Scrum, A Practical Guide to the Most Popular Agile Process* by Kenneth S. Rubin

Label [X] indicates,

- (a) Story Point (SP)
- (b) Danger Zone (DZ)
- (c) Work in Process (WIP)
- (d) Last Responsible Moment (LRM)
- (e) Unpredictable Tipping Point (UTP)

- 6) Which of the following statement(s) is/are correct regarding *Scrum*?

- I. User stories must be written in the voice of the developer.
- II. Daily planning is the most detailed level of planning.
- III. The outputs of portfolio planning became inputs to product-level planning.

- (a) I only
- (b) II only
- (c) I and III only
- (d) II and III only
- (e) All I, II and III

- 7) What is the most suitable response that represents, the “*Time boxed Period*” which the Scrum Team works to deliver a potentially releasable product increment?
- (a) Sprint
 - (b) Daily Scrum
 - (c) Sprint Review
 - (d) Sprint Retrospective
 - (e) Product Backlog Refinement
- 8) Which of the following accurately describes the *Sprint Backlog in Scrum*?
- (a) A prioritized list of all desired features for the product
 - (b) A summary of the sprint progress and accomplishments
 - (c) A record of all issues and bugs reported by the stakeholders
 - (d) A document outlining the overall project timeline and milestones
 - (e) A subset of items selected from the product backlog for the sprint
- 9) Which of the following is the purpose of the *Daily Scrum*?
- (a) To present completed work to stakeholders
 - (b) To review and evaluate the product backlog
 - (c) To make decisions on changes to the sprint plan
 - (d) To provide a detailed status report to management
 - (e) To discuss any issues or impediments faced by the team
- 10) Which of the following role is *responsible for prioritizing and managing the product backlog in Scrum*?
- (a) Scrum Master
 - (b) Stakeholders
 - (c) Product Owner
 - (d) Project Manager
 - (e) Development Team
- 11) Which of the following role in Scrum ensures that the *Scrum Team is protected from external interference and can work without interruptions*?
- (a) Scrum Master
 - (b) Product Owner
 - (c) Project Manager
 - (d) Development Team
 - (e) Stakeholder Representative

12) Which of the following statement(s) is/are correct regarding *Scrum Roles*?

- I. A product owner can be a member of a development team.
- II. Scrum Master can be the Scrum Master for more than one team.
- III. In Scrum, it is highly discouraged to have the same person working as the Scrum Master and the Product Owner

- (a) I only.
- (b) I and II only.
- (c) I and III only.
- (d) II and III only.
- (e) All I, II and III.

13) In Extreme Programming (XP), which role is responsible for finding the most effective way of delivering the stories in the plan?

- (a) Programmers
- (b) On-site customers
- (c) Testers
- (d) Coaches
- (e) Analysts

14) Which of the following statement(s) is/are correct regarding *Scrum Planning Principles*?

- I. Planning approach of Scrum is to create a detailed plan upfront before the development work begins.
- II. Scrum keeps planning options open until the last responsible moment.
- III. Scrum values responding to change and replanning over following the up-front plan.

- (a) I only
- (b) II only
- (c) III only
- (d) I and II only
- (e) II and III only

15) _____ is an activity for determining which product to work on, in what order, and for how long.

- (a) Product Planning
- (b) Release Planning
- (c) Sprint Planning
- (d) Daily Planning
- (e) Portfolio Planning

16) Which of the following is the set of activities that participants engage in *Portfolio planning*?

- (a) Scheduling, Managing outflows, Managing inflows, Sprint mapping
- (b) Managing in-process products, Scheduling, Managing inflows, Managing outflows
- (c) Review constraints, Grooming backlog, Sprint mapping, Scheduling
- (d) Review constraints, Scheduling, Managing inflows, Managing outflows
- (e) Scheduling, Grooming backlog, Managing in-process products, Review constraints

17) Which of the following statement(s) is/are correct regarding the *outflow strategies* of *Portfolio Planning*?

- I. If all the team members are not 100% utilized, Take the top product from the portfolio backlog and assign people to work on it.
- II. Teams are the unit of capacity that should be used for establishing the Work in Progress (WIP) limit.
- III. Wait for a complete Scrum team to be available before starting to work on a product.

- (a) I only
- (b) II only
- (c) I and II only
- (d) II and III only
- (e) All I, II, and III

18) Which of the following statement(s) is/are correct regarding communicating progress on a *Fixed-Date release*?

- I. The goal is to communicate the range of features expected to be completed and sprint by sprint progress towards the range.
- II. The goal is to communicate the remaining scope of work at a given point in time.
- III. Traditional burndown charts and burnup charts can be used effectively to communicate progress.

- (a) I only
- (b) II only
- (c) III only
- (d) I and III only
- (e) II and III only

19) Which of the following is an output of *Sprint Execution*?

- (a) Sprint Backlog
- (b) Product Backlog
- (c) A Potentially shippable product increment
- (d) Initial sprint goal
- (e) Velocity

- 20) Which of the following statement(s) is/are correct regarding the determining capacity in *Sprint Planning*?
- I. The time required to work outside the sprint is not considered when determining the capacity.
 - II. The team should reserve up to 10% of its time to assist with product backlog grooming.
 - III. A practical sprint buffer can be determined through experience after a team has done several sprints.

- (a) I only
(b) II only
(c) I and III only
(d) II and III only
(e) All I, II, and III

- 21) Select the most suitable options for filling the blanks in the following statements.
- ____Ⓟ____ shows the evolving state of the sprint backlog over time.
 - ____Ⓢ____ helps the team remain goal focused instead of task focused.
 - ____Ⓡ____ displays the amount of work remaining with respect to time.

- (a) Ⓟ - Swarming, Ⓢ - Task Board, Ⓡ - Sprint burndown chart
(b) Ⓟ - Insight backlog, Ⓢ - Sprint burnup chart, Ⓡ - Task Board
(c) Ⓟ - Task Board, Ⓢ - Swarming, Ⓡ - Sprint burndown chart
(d) Ⓟ - Task Board, Ⓢ - Event timeline, Ⓡ - Sprint burnup chart
(e) Ⓟ - Insight backlog, Ⓢ - Swarming, Ⓡ - Sprint burndown chart

- 22) Which of the following statement(s) is/are correct regarding the *Sprint Review*?
- I. The goal of the sprint review is to inspect and adapt the product that is being built.
 - II. Before the sprint review begins, the product backlog items should have already received approval from the product owner.
 - III. In the sprint review, the Scrum team presents a summary of what took place and what was accomplished throughout the sprint.

- (a) I only
(b) II only
(c) I and II only
(d) I and III only
(e) All I, II, and III

- 23) Match each *automated system testing type* with the correct description.

Test Type	Description
Ⓐ - <i>Playback Testing</i>	Ⓟ - A feature is tested using various scenarios that are divided into sections based on the Given-When-Then principle.
Ⓑ - <i>Keyword-Driven Testing</i>	Ⓠ - New test cases are required for new functions in each sprint due to GUI changes.
Ⓒ - <i>Behavior-Driven Testing</i>	Ⓡ - Test objects are referred to by unique IDs that remain the same over the upcoming sprints.

- (a) Ⓐ → Ⓟ, Ⓑ → Ⓡ, Ⓒ → Ⓠ
 (b) Ⓐ → Ⓠ, Ⓑ → Ⓡ, Ⓒ → Ⓟ
 (c) Ⓐ → Ⓡ, Ⓑ → Ⓠ, Ⓒ → Ⓟ
 (d) Ⓐ → Ⓠ, Ⓑ → Ⓟ, Ⓒ → Ⓡ
 (e) Ⓐ → Ⓡ, Ⓑ → Ⓟ, Ⓒ → Ⓟ

- 24) What is the *test double* that analyzes calls and data that it receives from the test object for validity and returns a result to the object?

- (a) Stub
 (b) Mock
 (c) Spy
 (d) Fake
 (e) Dummy

- 25) Which of the following statement(s) is/are correct regarding *Integration Testing*?
- The lowest level at which integration testing takes place is the integration of classes.
 - Horizontal integration describes classes that are integrated in order of their inheritance hierarchies.
 - Dependency injections enable better testing of compound classes.

- (a) I only
 (b) II only
 (c) I and II only
 (d) I and III only
 (e) All I, II, and III
