DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2021 – 2ⁿᵈ Year Examination – Semester 4

IT4406 – Agile Software Development
Part 1 - Multiple Choice Question Paper

(ONE HOUR)

<u>**Important Instructions :**</u>

- The duration of the paper is **1 (one) hour**.

- The medium of instruction and questions is English.

- The paper has **25 questions** and **9 pages**.

- All questions are of the **MCQ** (Multiple Choice Questions) type.

- All questions should be answered.

- Each question will have 5 (five) choices with <u>**one or more**</u> correct answers.

- All 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 0 (*All the incorrect choices are marked & no correct choices are marked*) to +1 (*All the correct choices are marked & no incorrect choices are marked*).

- 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 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.

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1) Which of the following is valued more than contract negotiation in the *Agile Manifesto*?

(a) Responding to change
(b) Customer collaboration
(c) Comprehensive documentation
(d) Working software
(e) Individuals and interactions

2) According to the principles behind the *Agile Manifesto*, _____ is the primary measure of progress.

(a) Working software
(b) Comprehensive documentation
(c) Technical excellence
(d) Early delivery
(e) Customer value

3) Which of the following agile principle(s) in Scrum is/are related to the *Validated Learning* category?

(a) Organize workflow for fast feedback
(b) Measure progress by validating working assets
(c) Keep options open
(d) Employ iterative and incremental development
(e) Accept that you can't get it right upfront

4) Which of the following statements is/are **correct** regarding the Scrum framework?

    I. Scrum teams are cross-functional and self-organizing teams.
    II. Scrum is a framework for organizing and managing work.
    III. Work is performed in short, time-boxed iterations.

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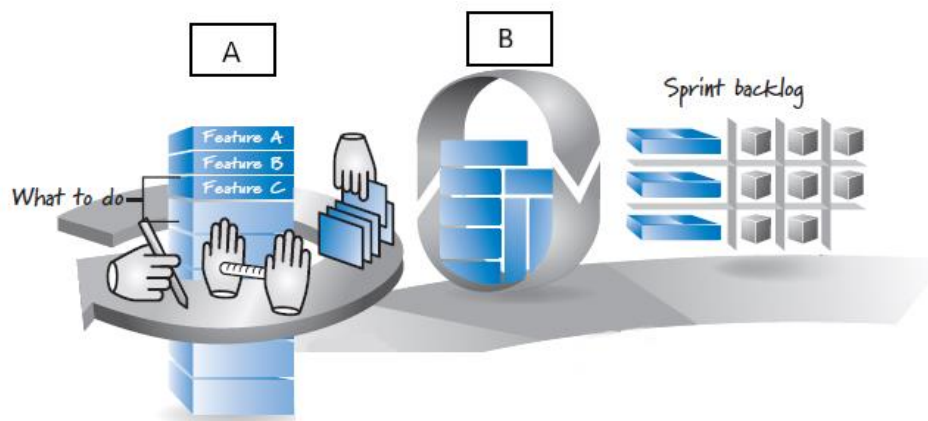(c) I and III Only
(d) II and III Only
(e) All I, II, and III

5) During _____, the *development team* decides on the high priority *product backlog* items that the team can accomplish in the next sprint.

   (a) Sprint review
   (b) Sprint retrospective
   (c) Sprint planning
   (d) Release planning
   (e) Product planning

6) *Velocity* of a Scrum Team can be used as _____,

   (a) a performance metric
   (b) a team diagnostic metric
   (c) an input for sprint review
   (d) an input for sprint retrospective
   (e) an indicator for work completed

7) Figure below shows a part of the Scrum framework.

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

Select the most suitable option that matches terms to labels **A** and **B**

   (a) Ⓐ → Product backlog, Ⓑ → Sprint planning
   (b) Ⓐ → Sprint goal, Ⓑ → Sprint planning
   (c) Ⓐ → Sprint goal, Ⓑ → Sprint execution
   (d) Ⓐ → Product backlog, Ⓑ → Sprint execution
   (e) Ⓐ → Product backlog, Ⓑ → Sprint review

8) Which of the following is/are economic level(s) that the *product owner* should manage as one of his responsibilities.

    I.   *Release-Level economics*
    II. *Sprint Backlog economics*
    III. *Product Backlog economics*

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

9) As the Scrum team's _____, the *Scrum Master* ensures that the Scrum team follows the Scrum values, principles, and practices.

(a) change agent
(b) impediment remover
(c) servant leader
(d) process authority
(e) interference shield

10) Which of the following statements is/are **correct** regarding the agile development team.

    I.   Each development team member is expected to participate in each daily scrum.
    II. The majority of the team members are expected to have T-shaped skills.
    III. The development teams are called cross-functional because they work with other teams collaboratively.

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

11) Which of the following is/are *Scrum Planning* principles?

(a) Frequent and complete releases are favored.
(b) Detailed plans are delivered up-front, prior to development.
(c) The plan is followed through without further changes.
(d) Prioritize and confirm the most important decisions early-on.
(e) Frequent re planning based on validated assumptions.

12) _____ is a *Scrum Planning* level,

(a) Retrospective
(b) Review
(c) Deployment
(d) Predictive
(e) Release

13) Match each term with the suitable description.

Term	Description
Ⓐ − *Continuous deployment*	Ⓟ - The set of features that is required for a deployment to deliver value.
Ⓑ - *Minimum releasable features*	Ⓠ - Changes to a feature are released immediately when it's ready.
Ⓒ - *Product roadmap*	Ⓡ - How the product will be built and when each feature will be released

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

14) Which of the following statements is/are **correct** in regards to Portfolio Planning in Scrum?

I. *Portfolio planning* mainly considers collections of new potential products.
II. *Portfolio Planning* outputs a list of prioritized and approved future products.
III. *Portfolio Planning* considers newly envisioned product ideas from product planning as inputs.

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

15) Which of the following is/are scheduling strategies used in *Portfolio Planning*?

> (a) Scheduled work should only begin once a complete scrum team is put together.
> (b) Smaller and more frequent releases should be scheduled.
> (c) Estimates should focus on precision.
> (d) Cost of delay should be calculated.
> (e) Applying the economic filter to the product.

16) Use correct terms to fill in the blanks in the following statements about *Product Envisioning*.

- A product idea is first passed through an organization's ………Ⓟ…… to ensure it's suitable.
- The ……Ⓠ………. is the only required participant during initial *envisioning*.
- Too much *envisioning* results in …………Ⓡ……..

> (a) Ⓟ - board of directors, Ⓠ - development team, Ⓡ – underperforming at the first sprint
> (b) Ⓟ - scrum master, Ⓠ - development team, Ⓡ - large inventory of product-planning artifacts
> (c) Ⓟ - strategic filter, Ⓠ - product owner, Ⓡ - large inventory of product-planning artifacts
> (d) Ⓟ - scrum master, Ⓠ - product owner, Ⓡ - large inventory of product-planning artifacts
> (e) Ⓟ - strategic filter, Ⓠ - development team, Ⓡ - underperforming at the first sprint

17) _____is identified as an input to the *Sprint Planning* Process.

> (a) Subjective Data
> (b) Insight Backlog
> (c) Initial Sprint Goal
> (d) Improved Actions
> (e) Exercises

18) Which of the following is/are development team's responsibility in *Sprint Planning*?

> (a) Determining the specific product backlog items to be delivered at the end of the sprint.
> (b) Arranging meetings to resolve problems.
> (c) Developing story points to represent the goal.
> (d) Determining the related user stories to achieve the goal within the sprint.
> (e) Sharing the initial sprint goal.

19) Which of the following statements about sprinting is/are **correct**?

I. The development team finalizes its commitments at the *Sprint Retrospective*.
II. *One-Part* sprint planning begins by determining the development team's capacity to complete work.
III. In *Two-Part* sprint planning, the second part, "*How*" begins by refining sprint goals.

(a) I Only

(b) II Only

(c) III Only

(d) II and III Only

(e) All I,II and III

20) Match each term with the suitable description.

Term	Description
Ⓐ - *Swarming*	Ⓟ - Shows the evolving state of the sprint backlog over time
Ⓑ - *Task Board*	Ⓠ - Creating and refining product backlog items, estimating product backlog items and prioritizing them.
Ⓒ - *Product Backlog Grooming*	Ⓡ - Sprints are executed by team members helping on-going tasks to be completed before moving on to new tasks when they've finished a task.

(a) Ⓐ → Ⓡ, Ⓑ → Ⓟ, Ⓒ → Ⓠ

(b) Ⓐ → Ⓠ, Ⓑ → Ⓟ, Ⓒ → Ⓡ

(c) Ⓐ → Ⓡ, Ⓑ → Ⓠ, Ⓒ → Ⓟ

(d) Ⓐ → Ⓟ, Ⓑ → Ⓠ, Ⓒ → Ⓡ

(e) Ⓐ → Ⓠ, Ⓑ → Ⓟ, Ⓒ → Ⓡ

21) Which of the following statements is/are **correct** in regards to *Continuous Integration (CI)* in Scrum?

(a) Every piece of code is installed and integrated as soon as the sprint is over.

(b) Facilitates incremental integration.

(c) Follows a phase-oriented cascading approach to the Sprint.

(d) Integration test feedback is received as soon as the sprint is over.

(e) The process followed by the team is, Coding → Unit testing → Integration Testing → Defect Correction

22) Select the most suitable option for filling the blanks in the following statements.

- ____Ⓟ_____ is a checklist that the Scrum team uses to decide if a certain Story is well-defined.

- _____Ⓠ_____ describes conditions that should be satisfied to consider a deliverable ready for release.
- _____Ⓡ_____ determines if the items in the product backlog are clear enough to be declared as done.

(a) Ⓟ → **DOR** (Definition of Ready), Ⓠ → **DOR** (Definition of Ready), Ⓡ → **DOD** (Definition of Done)

(b) Ⓟ → **DOR** (Definition of Ready), Ⓠ → **DOD** (Definition of Done), Ⓡ → **DOR** (Definition of Ready)

(c) Ⓟ → **DOR** (Definition of Ready), Ⓠ → **DOR** (Definition of Ready), Ⓡ → **DOR** (Definition of Ready)

(d) Ⓟ → **DOD** (Definition of Done), Ⓠ → **DOD** (Definition of Done), Ⓡ → **DOD** (Definition of Done)

(e) Ⓟ → **DOD** (Definition of Done), Ⓠ → **DOR** (Definition of Ready), Ⓡ → **DOD** (Definition of Done)

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

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

(a) Ⓐ → Ⓟ, Ⓑ → Ⓡ, Ⓒ → Ⓠ

(b) Ⓐ → Ⓠ, Ⓑ → Ⓡ, Ⓒ → Ⓟ

(c) Ⓐ → Ⓡ, Ⓑ → Ⓠ, Ⓒ → Ⓟ

(d) Ⓐ → Ⓠ, Ⓑ → Ⓡ, Ⓒ → Ⓟ

(e) Ⓐ → Ⓡ, Ⓑ → Ⓟ, Ⓒ → Ⓠ

24) Which of the following is/are responsibilities of *On-site customers* in *Extreme Programming* (XP)?

(a) Finding the most effective way of delivering the stories in the plan

(b) Helping customers think of details they might otherwise forget

(c) Leading iteration demos

(d) Providing programmers with requirement details upon request

(e) Maintaining the product vision

25) What is the role responsible for setting priorities for release planning in *Extreme Programming* (XP)?

(a) Programmers
(b) On-site customers
(c) Product Manager
(d) Business Analysts
(e) Coaches

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