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

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IT4406 — Agile Software Development

Part 1 - Multiple Choice Question Paper

(2 Hours for both Part 1 and Part 2)

Important Instructions

- This paper has **two (2) parts, Part 1 and Part 2**.
- The total duration of **both Part 1 and Part 2 is 2 hours**.
- The final mark for the paper will be determined by averaging the scores of Part 1 and Part 2, each of which is graded out of **100**.
- The medium of instructions and questions is English.
- This paper (Part 1) has **25 MCQ questions** on **8 pages**. Answer **all** questions.
- Each question will have **5 (five)** choices with **ONE OR MORE** correct answers.
- 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 or part of 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.**
- Any electronic device capable of storing and retrieving text, including electronic dictionaries, smartwatches, mobile phones, and Calculators are **not** allowed.
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1). Which of the following best describe(s) the primary goal or key purpose of the *Manifesto for Agile Software Development*?

- (a) To define a fixed sequence of activities for software projects
- (b) To provide values and principles that guide adaptive software development
- (c) To prescribe the roles and ceremonies used in Scrum
- (d) To replace project documentation with source code
- (e) To reduce the need for detailed project planning

2). A manager states the following when introducing *Agile values* in a software project.

- i. Emphasize collaboration among team members rather than relying heavily on procedures.
- ii. Give higher priority for following the approved project plan than responding to late requirement changes.
- iii. Prioritize delivering usable software instead of producing excessive documentation.

Which combination of the above **correctly** reflects the values of the Agile Manifesto?

- (a) (i) only
- (b) (i) and (ii) only
- (c) (ii) and (iii) only
- (d) (i) and (iii) only
- (e) All of the above

3). A software team is preparing a release plan for a product with uncertain customer requirements. Which statement(s) **correctly** reflect(s) the agile principles of prediction and adaptation?

- (a) Favor adapting and re-planning over rigidly following the initial plan
- (b) Improve predictability by decomposing all planned release work into detailed tasks before the first sprint.
- (c) Reversible-cost decisions should be made as early as possible
- (d) Use the approved release plan as the baseline for measuring success without changes.
- (e) Embrace change in an economically sensible way

4). Which of the following best reflect(s) the benefit(s) of using Scrum?

- (a) It aims to improve return on investment through fast, frequent delivery of value
- (b) It guarantees that a project will be delivered on the original fixed scope, date, and budget
- (c) It removes the need for customer involvement once the Product Backlog is agreed upon
- (d) It eliminates all project risk by following a detailed up-front plan
- (e) It ensures defect-free software by deferring testing to the end of the project

5). Which of the following is/are **not** (a) characteristic(s) of a well-written user story?

- (a) Independent enough to reduce unnecessary coupling with other stories
- (b) Valuable from a user or stakeholder perspective
- (c) A fixed contract so that it is stable throughout the project
- (d) Small enough to be understood and planned effectively
- (e) Testable through clear acceptance conditions

6). Which statement(s) about *velocity* in Scrum is/are **correct**?

- (a) Velocity is the amount of work (e.g., story points) a team completes in a Sprint
- (b) Only items meeting the Definition of Done count toward a Sprint's velocity
- (c) Comparing two teams' velocities is a valid measure of relative productivity
- (d) Velocity is better expressed and applied as a range when forecasting
- (e) Velocity should be set by managers as an individual performance target

7). Which of the following best describe(s) the primary purpose of the *Daily Scrum*?

- (a) A status report from the developers to the Scrum Master and managers
- (b) A demonstration of the Increment to stakeholders for feedback
- (c) A session to fully resolve every technical impediment raised
- (d) A developer event to inspect the Sprint-Goal progress and adjust the upcoming planned work if required
- (e) A re-estimation of all the remaining Product Backlog items

8). Which statement(s) about Scrum team structures is/are **incorrect**?

- (a) Feature teams are cross-functional and cross-component, which reduces handoffs between teams
- (b) Feature teams can pull end-customer features from the product backlog and complete them
- (c) Scrum favors feature teams
- (d) Component teams focus on the development of a component that can be used to create only part of an end-customer feature
- (e) Component teams are preferred in Scrum because specialization is its main optimization goal

9). Which of the following **correctly** describe(s) the role of the *Scrum Master*?

- (a) Has line authority to assign daily tasks and direct the Developers
- (b) Acts as the primary person responsible for collecting requirements
- (c) Helps the Scrum Team and stakeholders understand and apply Scrum principles
- (d) Operates as a traditional command-and-control project manager
- (e) Holds sole accountability for prioritizing and ordering the Product Backlog

10). According to Scrum, what is/are (a) characteristic(s) of a well-formed Development Team?

- (a) Self-organizing in determining how to turn backlog items into working software
- (b) Composed of specialized and permanent sub-teams
- (c) Collectively accountable as a whole for the Sprint's outcome
- (d) Managed by a designated Team Lead who assigns tasks to individual members
- (e) Strongly follows individual hierarchical titles such as "Senior Architect"

11). Which of the following is/are **true** regarding multiple-team coordination in Scrum?

- (a) In a Scrum of Scrums, all team members of the individual Scrum teams are required to participate
- (b) In a Scrum of Scrums, management dictates which team members participate to ensure accurate status reporting
- (c) A Release Train focuses on cross-team synchronization at the level of a larger product
- (d) The Release Train schedule is flexible and will delay its departure for all work to complete
- (e) If a team misses the train, there will be no other train that they can use in the future

12). Which activity/activities is/are **not** (a) part of ongoing Product Backlog grooming (refinement)?

- (a) Decomposing selected stories into engineering tasks with hour estimates
- (b) Adding newly discovered items and removing ones no longer needed
- (c) Re-ordering items as business value or risk changes
- (d) Splitting large epics into smaller, sprint-sized stories
- (e) Accepting or rejecting completed stories against the Definition of Done

13). Which statement(s) best capture(s) the main focus of portfolio planning in Scrum?

- (a) Coordinating developers' day-to-day tasks
- (b) Deciding which products to invest in and in what order
- (c) Writing detailed requirements for each new feature
- (d) Producing a Gantt chart of the release timeline
- (e) Running the Sprint Retrospective for each team

14). Which statement(s) do/does **not** accurately describe release planning in Scrum?

- (a) Involves collaboration between the stakeholders and the full Scrum team
- (b) It is revisited and updated as the team learns, not fixed after Sprint 1
- (c) In fixed-date planning, scope is flexed to meet a committed date
- (d) In fixed-scope planning, the date is flexed to deliver a committed scope
- (e) It must simultaneously lock scope, schedule, and cost

15). Regarding envisioning (product planning), which statement(s) is/are **correct**?

- I. Envisioning establishes the product vision and a high-level Product Backlog
- II. An economically sensible amount of up-front envisioning helps the team begin development with a clear product direction
- III. A product roadmap is a visual representation of how the product is expected to evolve over time

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

16). Which statement(s) best reflect(s) the economic rationale for smaller, more frequent releases?

- I. Earlier delivery enables earlier return on investment (ROI)
- II. Smaller releases remove the need to define a Minimum Releasable Feature set
- III. More frequent feedback helps validate business value sooner

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

17). A Scrum Team is in the middle of a two-week Sprint. The team realizes that some selected Product Backlog Items may not be completed by the end of the Sprint.

What is/are the **most suitable** action(s) according to Scrum?

- (a) Extend the Sprint until all selected Product Backlog Items are completed
- (b) Cancel the Sprint immediately because the original Sprint Backlog cannot be completed
- (c) Continue the Sprint, discuss the situation with the Product Owner, and adjust the Sprint Backlog while preserving the Sprint Goal
- (d) Add more developers to the team during the Sprint to complete the original scope
- (e) Stop all development work and conduct the Sprint Retrospective before the scheduled end date

18). A Scrum Team has completed a Sprint and is preparing for the two end-of-Sprint events: the Sprint Review and the Sprint Retrospective.

Which option **correctly matches** the activity with the most appropriate Scrum event?

Activity I Stakeholders inspect the Increment and provide feedback.

Activity II The team discusses their experience related to processes, tools, and collaboration.

Activity III New Product Backlog Items are identified based on feedback.

Activity IV The team agrees on concrete improvements to its way of working for the next Sprint.

- (a) Sprint Review: I and II Sprint Retrospective: III and IV
- (b) Sprint Review: I and III Sprint Retrospective: II and IV
- (c) Sprint Review: II and IV Sprint Retrospective: I and III
- (d) Sprint Review: I, III and IV Sprint Retrospective: II only
- (e) Sprint Review: I only Sprint Retrospective: II, III and IV

19). A team with a stable velocity of about 30 story points finds that its draft Sprint Backlog holds 50 points. According to Scrum, which action(s) is/are suitable?

- (a) Extend the Sprint timebox to fit all 50 points
- (b) Commit to all 50 points and cover the gap with overtime
- (c) Add new developers mid-Sprint to lift velocity
- (d) Re-prioritize and select the highest-value items that fit within roughly 30 points
- (e) Re-negotiate the scope with the Product Owner to match the capacity

20). A Scrum Team is developing an online booking system. In the current approach, developers complete all coding first and then hand the system to a separate QA group near the end of the release. Many defects are discovered late, causing rework and delayed delivery.

Which change(s) would best align the team's testing approach with Scrum?

- (a) Keep testing as a separate final phase, but increase the number of testers assigned to the project
- (b) Ask the QA group to test only the most critical features at the end of the release
- (c) Allow developers to complete all coding first, but require them to prepare more detailed test documents
- (d) Embed testing within each Sprint, with the teams collaborating on quality
- (e) Move testing responsibility to the Product Owner so that developers can focus only on implementation

21). A development team merges code only once every two weeks. Each merge produces many conflicts, broken builds, and defects that are difficult to trace to a specific change. Which practice(s) would **most directly** address this problem?

- (a) Delay integration until all developers confirm that their individual features are complete
- (b) Integrate frequently into a shared repository with automated builds and tests
- (c) Stop automated tests and rely on manual testing after the release branch is created
- (d) Assign one developer to merge all code at the end of each Sprint
- (e) Avoid changing shared modules until the final integration phase

22). A developer is using Test-First Development to implement a new password validation rule. Which sequence best represents the Test-First Development cycle?

- (a) Write production code, manually test it, then write automated tests if time remains
- (b) Write a failing test, add the simplest code to pass it, then refactor with tests passing
- (c) Design the full architecture, implement all validation rules, and then create regression tests at the end
- (d) Write all possible tests first, freeze the design, and avoid refactoring for stability

(e) Write acceptance tests after the feature is accepted by the Product Owner

23). Which statement(s) about *Kanban* is/are **correct**?

- (a) Work is visualized on a board whose columns represent the stages of the workflow
- (b) A WIP (Work In Progress) limit restricts how many items a column can hold
- (c) Work is organized into fixed-length timeboxed sprints with a sprint backlog
- (d) New work is pulled from the backlog as capacity allows, rather than pushed on a fixed schedule
- (e) Every item must be estimated in story points before it can enter the board

24). Which statement(s) **correctly** describe *Extreme Programming (XP)*?

- (a) Requires complete, detailed specifications to be agreed and frozen before coding begins
- (b) Relies on short development cycles with frequent, small releases
- (c) Uses collective code ownership, so any developer may improve any part of the codebase
- (d) Discourages refactoring once a piece of code is working
- (e) Is built on values such as communication, simplicity, and feedback

25). In the Extreme Programming Planning Game, match each decision in Column A to the responsible party in Column B, then choose the option that matches all four **correctly**.

Column A: Decision	Column B: Party
(i) Choosing which features to build first	(P) The Customer
(ii) Deciding which stories are included in a release	(Q) The Programmers
(iii) Estimating the effort to implement a story	
(iv) Judging the technical feasibility of an approach	

- (a) (i)–Q, (ii)–Q, (iii)–P, (iv)–P
- (b) (i)–P, (ii)–Q, (iii)–P, (iv)–Q
- (c) (i)–Q, (ii)–P, (iii)–Q, (iv)–P
- (d) (i)–P, (ii)–P, (iii)–P, (iv)–Q
- (e) (i)–P, (ii)–P, (iii)–Q, (iv)–Q
