



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY  
(EXTERNAL)

*Academic Year 2018 – 2<sup>nd</sup> Year Examination – Semester 4*

*IT4305: Rapid Software Development*  
*Part I - Multiple Choice Question Paper*

**30<sup>th</sup> September 2018**  
**(ONE HOUR)**

**Important Instructions :**

- The duration of the paper is **1 (one) hour**.
- The medium of instruction and questions is English.
- The paper has **30 questions** in **11 pages**.
- All questions are of the MCQ (Multiple Choice Question) type.
- All questions will carry equal marks.
- **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 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.**

Consider the following responsibilities in relation to the Scrum framework

- i. Coach the team on Scrum principles and ensure that the Scrum team adheres to the Scrum values, principles
- ii. Perform the hands-on work of building product backlog items into increments of potentially shippable functionality
- iii. Decide which features and functionality to build and the order in which to build them
- iv. Help the team resolve issues, remove obstacles and make improvements to its use of Scrum
- v. Define acceptance criteria and verify that they are met
- vi. Perform sprint execution

Use the above noted responsibilities (i to vi) to answer questions, 1-3.

1. Which of the above are **key responsibilities** of the Scrum master?

- (a) i and ii
- (b) i and iv
- (c) ii and iii
- (d) iii and v
- (e) v and vi

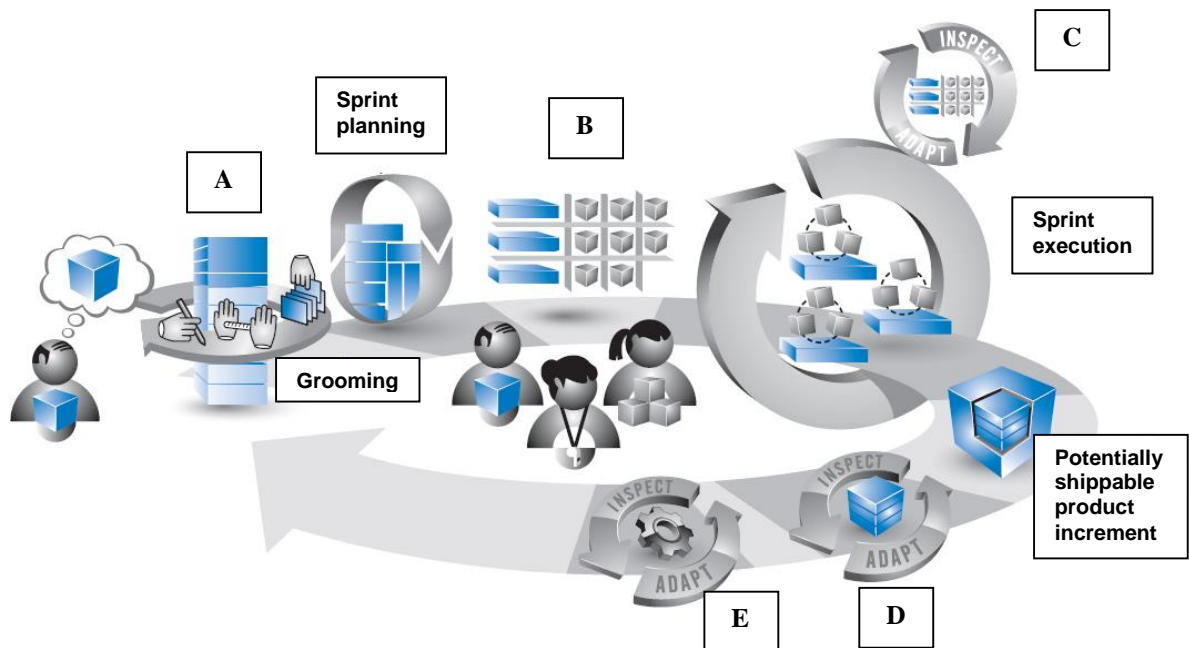
2. Which of the above are **key responsibilities** of the development team?

- (a) i and iii
- (b) ii and iv
- (c) ii and vi
- (d) iv and v
- (e) v and vi

3. Which of the above are **key responsibilities** of the product owner?

- (a) i and ii
- (b) ii and v
- (c) iii and iv
- (d) iii and v
- (e) iv and v

4. Consider the following activities and artifacts of the Scrum framework.



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

What are the **most suitable** terms for labels A - F?

- (a) A → Product backlog, B → Sprint backlog, C → Daily scrum,  
D → Sprint retrospective, E → Sprint review.
- (b) A → Sprint backlog, B → Product backlog, C → Daily scrum,  
D → Sprint review, E → Sprint retrospective.
- (c) A → Product backlog, B → Sprint backlog, C → Daily scrum,  
D → Sprint review, E → Sprint retrospective.
- (d) A → Product backlog, B → Sprint retrospective, C → Sprint review,  
D → Daily scrum, E → Sprint backlog.
- (e) A → Sprint backlog, B → Product backlog, C → Sprint review,  
D → Daily scrum, E → Sprint retrospective.

5. Which of the following statement(s) is/are **correct** regarding roles of a Scrum team.

- i. If one has the required cross-functional skills, he/she can work both as development team member and Scrum master
- ii. Same person serving as both, Scrum master and product owner is encouraged.
- iii. One person can be the Scrum master for multiple projects simultaneously.

- a) i only
- b) ii only
- c) i and ii only
- d) i and iii only
- e) All i, ii and iii

6. The product owner and development team agreeing on the sprint goal occurs in the sprint-planning event. Which of the following is/are also a part of the spring planning stage?

- (a) The Scrum team prepares a sprint backlog that includes the work needed to complete the selected product backlog items
- (b) The development team breaks down targeted features into a set of tasks
- (c) The Scrum team confirms the sprint backlog
- (d) The development team provides an estimate and initiate the development work
- (e) The development team conducts the initial testing work of the first set of outputs

7. Consider the following levels of planning (A, B, C) and the main duties in each of those levels (1 2 3) (which are not in the correct order) in Scrum multi-level planning

Planning Levels	Main Duties
A-Portfolio Planning	①- Forms an idea of what you can deliver by a fixed date - creates and estimates a sufficient number of product backlog items.
B-Product Planning	②- Determines which products to work on, in what order, and for how long.
C-Release Planning	③- Establishes high-level product backlog

Match the levels of planning (A - C) with the correct duties for each level (1 - 3).

- (a) A → ①, B → ②, C → ③
- (b) A → ①, B → ③, C → ②
- (c) A → ②, B → ①, C → ③
- (d) A → ②, B → ③, C → ①
- (e) A → ③, B → ②, C → ①

8. Which of the following is/are **correct** in relation to Scrum team structures?

- i. *Component Teams* are sometimes referred to as asset/subsystem teams
- ii. Scrum favours *Component Teams*
- iii. A member of a *Component Team* can be assigned to be a member of a *Feature Team*

- (a) i only
- (b) ii only
- (c) i and ii only
- (d) i and iii only
- (e) All i, ii and iii

9. Which of the following is/are **correct** in relation to a sprint in the Scrum framework?
- (a) A sprint (or iteration) is the basic unit of development in Scrum
  - (b) The sprint is not restricted to a specific duration
  - (c) The duration is kept flexible in advance for each sprint
  - (d) Each sprint starts with a sprint planning event that aims to define a product backlog
  - (e) The sprint ends with a sprint review and sprint retrospective
10. Which of the following statements is/are **correct** in relation to the activities performed during *a sprint* in the Scrum framework.
- i. No changes to sprint duration is allowed
  - ii. Sprint ends on planned date, irrespective of the teams completion of its commitment or not
  - iii. The customer/client cannot terminate the sprint
- a) i only
  - b) i and ii only
  - c) ii and iii only
  - d) i and iii only
  - e) All i, ii and iii
11. “*Appreciate individuals and interactions over process and tools*”, is one principle in the *Agile Manifesto*. Which of the following is/are also principles of the same manifesto?
- (a) Focus on a working software over comprehensive documentation.
  - (b) Comprehensive planning prior to development
  - (c) Ensure customer collaboration over contract negotiation.
  - (d) Following a plan over responding to change.
  - (e) Restricted information flow over visibility of project matters
12. Which of the following is/are **correct** in relation to the *Daily Scrum Meeting* in the Scrum framework?
- i. It is an inspection and adaptive daily planning activity
  - ii. It is a timeboxed activity
  - iii. It is similar to a traditional status meeting, where the project managers get updated
- (a) i only
  - (b) ii only
  - (c) i and ii only
  - (d) i and iii only
  - (e) All i, ii and iii

13. Which of the following is/are **correct** in relation to the *Sprint Review* in the Scrum framework?

- i. It is focused on reviewing the just-completed features in terms of the overall work
- ii. The people who are not on the Scrum team get updated on the development effort
- iii. The goal of this activity is to inspect and adapt the product that is being built

- (a) i only
- (b) ii only
- (c) i and ii only
- (d) ii and iii only
- (e) All i, ii and iii

14. Which of the following is/are **correct** in relation to the *Sprint Retrospective* in the Scrum framework?

- i. This phase is an opportunity to inspect and adapt the product that is being built
- ii. At the end of this phase the Scrum team should have identified and committed to process improvement actions
- iii. A backlog of insights is collected which the team will not address in the upcoming sprint but might choose to address in the future

- (a) i only
- (b) ii only
- (c) i and ii only
- (d) ii and iii only
- (e) All i, ii and iii

15. Which of the following is/are **correct** in relation to iterative and incremental development?

- i. Iterative development is a planned rework strategy
- ii. In iterative and incremental development most or all of the components of the product is completed late in the effort
- iii. Risk of missing the overall or broad view is minimal in incremental development

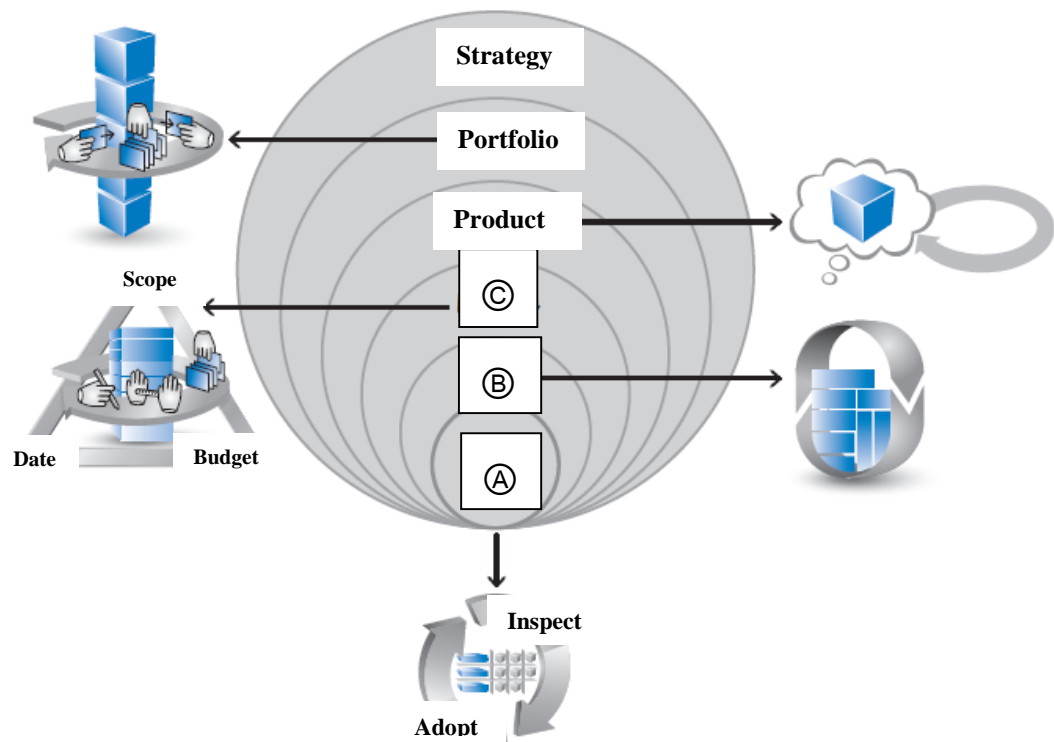
- (a) i only
- (b) ii only
- (c) i and ii only
- (d) ii and iii only
- (e) All i, ii and iii

16. Which of the following Scrum role(s) should participate in *Portfolio Planning*?
- i. Stakeholders
  - ii. Development Team
  - iii. Product Owners
- (a) i only
  - (b) i and ii only
  - (c) i and iii only
  - (d) ii and iii only
  - (e) All i, ii and iii
17. In the Scrum multilevel planning model, which planning stage carries out the ‘*highest level of detailed*’ planning?
- (a) Portfolio
  - (b) Product
  - (c) Release
  - (d) Sprint
  - (e) Daily
18. Which of the following statement(s) is/are **correct** regarding *Scrum Planning*?
- i. First sprints starts with zero planning.
  - ii. Scrum planning is more focused on adapting and re-planning than on conforming to a plan.
  - iii. A balance in-advanced (up front) planning and just in time planning should be included in Scrum planning.
- (a) i only
  - (b) i and ii only
  - (c) i and iii only
  - (d) ii and iii only
  - (e) All i, ii and iii
19. What is/are the output(s) of the *Portfolio Planning*?
- (a) Product Backlog
  - (b) Portfolio Backlog
  - (c) Release Plan
  - (d) Set of Active Products
  - (e) Sprint Plan

20. Which of the following phrase(s) is/are **correct** regarding the *Velocity* in Scrum?
- i. It is the amount of work completed in each sprint.
  - ii. It includes the size numbers of partially completed Product Backlog Items.
  - iii. It is a measurement that the team can use to evaluate and improve its use of Scrum to deliver customer value.
- (a) i only
  - (b) ii only
  - (c) i and ii only
  - (d) i and iii only
  - (e) All i, ii and iii
21. Which of the following statements are **correct** regarding *Sprint Execution*?
- i. Scrum master defines the starting order of the sprint backlog.
  - ii. Development team members self-organize and determine the best way to meet the goal established during sprint planning.
  - iii. The product owner must be available to answer and clarify questions.
- (a) i only
  - (b) i and ii only
  - (c) i and iii only
  - (d) ii and iii only
  - (e) All i, ii and iii
22. Whose responsibility is it to define that a product backlog item is complete and ready to *Sign-off*?
- (a) Product Owner
  - (b) Scrum Master
  - (c) Project Manager
  - (d) Development Team
  - (e) Product Users
23. Which of the following is/are considered as scheduling strategies in *Portfolio Planning*?
- i. Optimize for lifecycle profits (Total profit potential for the product over its lifetime).
  - ii. Calculate the cost of delay.
  - iii. Estimate for precision, not accuracy.
- (a) i only
  - (b) i and ii only
  - (c) i and iii only
  - (d) ii and iii only
  - (e) All i, ii and iii



24. Consider the following diagram that shows the multi-level planning model of the Scrum framework.



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

What are the **most suitable** terms for labels ① - ③?

- (a) ① → Sprint Meeting ② → Daily Meeting ③ → Release Meeting
- (b) ① → Daily Meeting ② → Release Meeting ③ → Sprint Meeting
- (c) ① → Daily Meeting ② → Sprint Meeting ③ → Release Meeting
- (d) ① → Sprint Meeting ② → Release Meeting ③ → Daily Meeting
- (e) ① → Release Meeting ② → Sprint Meeting ③ → Daily Meeting

### Questions from 25 to 30 are based on Extreme Programming

25. Which of the following statement(s) is/are **correct** regarding *Extreme Programming (XP)*?
- i. Pair programming is being used for coding and code reviewing.
  - ii. It has daily standup meetings.
  - iii. It does not follow the iterative software development approach

- (a) i only
- (b) i and ii only
- (c) i and iii only
- (d) ii and iii only
- (e) All i, ii and iii

26. Which of the following statement(s) is/are **correct** regarding *Burn Up* charts?

- i. Give a holistic view of the overall project progress
- ii. Can be used to predict the completion date of the project
- iii. Can be updated when release plans are being updated

- (a) i only
- (b) i and ii only
- (c) i and iii only
- (d) ii and iii only
- (e) All i, ii and iii

27. What is the **main duty** of the *Product Owner* in XP?

- (a) Facilitate pair programming
- (b) Maintain and promote the product vision
- (c) Maintain product backlog
- (d) Initiate daily meetings
- (e) Maintain code quality

28. Which of the following statement(s) is/are **correct** regarding *Continuous Integration*?

- i. The goal is to deploy all, except the last few hours of work at any time.
- ii. It completely removes code-merging conflicts.
- iii. Short integration cycles make multiple merges less conflicting.

- (a) i only
- (b) i and ii only
- (c) i and iii only
- (d) ii and iii only
- (e) All i, ii and iii

29. Which of the following statement(s) is/are **correct** regarding *Pair Programming* in XP?

- i. *Driver* and *Navigator* are the two roles played in this methodology.
- ii. It supports collective code ownership.
- iii. Pairs do not change over time.

- (a) i only
- (b) i and ii only
- (c) i and iii only
- (d) ii and iii only
- (e) All i, ii and iii

30. Which of the following are types of *Retrospectives* in Extreme Programing (XP)?

- (a) Daily retrospective
- (b) Release retrospectives
- (c) Portfolio retrospectives
- (d) Product retrospectives
- (e) Surprise retrospectives

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