



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

*Academic Year 2013/2014 – 2<sup>nd</sup> Year Examination – Semester 4*

***IT4304: Rapid Software Development***

***Part 1: Multiple Choice Question Paper***

**20<sup>th</sup> July, 2014**

**(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** and **6 pages**.
- All questions are of the MCQ (Multiple Choice Questions) type.
- All questions should be answered.
- Each question will have 5 (five) choices with **one or more** 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 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.**

1. Which of the following statement/(s) is/are true about Rapid Application Development (RAD)?

- (a) RAD projects consist of short development cycles.
- (b) RAD is suitable for complex, large projects which require high security.
- (c) RAD is suitable for mission critical applications which require high reliability.
- (d) It is another version of traditional software development methodologies.
- (e) RAD needs both customer and developer interactions often to complete a project.

2. When it comes to Rapid Application Development, which of the following is considered as the four dimensions of speed according to Barry Boehm?

- (a) People, Process, Risk, Performance
- (b) People, Process, Risk, Technology
- (c) People, Process, Product, Technology
- (d) People, Process, Product, Resources
- (e) People, Process, Project, Performance

3. If the effort estimate for a particular project is 64 man-months, how many calendar months should be allocated in the schedule of that project?

- (a) 6 months
- (b) 5 months
- (c) 8 months
- (d) 10 months
- (e) 12 months

4. If the effort estimate for a particular project is 125 man months, how many team members have to be involved in that project?

- (a) 6 or 7 members
- (b) 7 or 8 members
- (c) 8 or 9 members
- (d) 9 or 10 members
- (e) 10 members

5. Which of the following statement/(s) is/are true about "Overly Optimistic Schedules"?

- (a) Schedule accuracy is at a very high level
- (b) Schedule accuracy is at a very poor level
- (c) Accuracy of the project planning is at a high level
- (d) There can be premature attempts to converge towards the solution
- (e) There is enough time to engage in requirements analysis and design phases

6. Which of the following factor/(s) of a Software Projects is/ are affected by the software development schedule pressure?

- (a) Creativity of the developers due to stress
- (b) Budget of the project due to schedule overrun
- (c) Quality of the project due to stressful developers
- (d) Initial requirements of the project, because of trying to meet the deadline quickly
- (e) Relationship between Developers and Managers, because managers insist the developers to deliver the product before the deadline.

7. If there are N number of members in a software development team, which of the following gives the number of interactions among the team members?

- (a)  $O(1)$
- (b)  $O(n)$
- (c)  $O(n^2)$
- (d)  $O(n^3)$
- (e)  $O(\log n)$

8. Which of the following statement/(s) is/are true about an effective software development team?
- (a) Most decisions are taken by the team leader.
  - (b) There should be a mutual trust among the members.
  - (c) There is a clear understanding of the purpose of the project among all the members.
  - (d) A team must consist of members with the appropriate mix and diversity of cross functional skills such as Coding, Quality Assurance etc.
  - (e) A team can consist of any number of members, because the number of team members does not affect the project duration
9. Which of the following model/(s) is/are **not** suitable for accommodating any change after completing the development phase?
- (a) Spiral Model
  - (b) Waterfall Model
  - (c) Prototyping Model
  - (d) Rapid Application Development
  - (e) Iterative and Incremental Development
10. Which of the following is/are considered as an “Iterative and Incremental Development” method/(s)?
- (a) Unified Process
  - (b) Extreme Programming
  - (c) Code and Fix Development
  - (d) Lean Start-up Methodology
  - (e) Phase-gate Process
11. Identify the advantage/(s) of Rapid Application Development (RAD) in Software Development.
- (a) RAD aims to achieve its goal in high speed and high quality.
  - (b) RAD gives the possibility of early visibility of the product.
  - (c) RAD is suitable when technical risks are high in the projects.
  - (d) RAD develops the project using iterative development phases.
  - (e) User involvement is not necessary after the requirement gathering phase.
12. Which of the following is/are considered as the benefits of Prototyping?
- (a) This gives the opportunity to train the users early.
  - (b) Incomplete requirements can be identified at early stages.
  - (c) User involvement is not regarded as an essential factor in Prototyping.
  - (d) Time required to test the system can be reduced due to early detection of problems.
  - (e) It is easy to deliver a large number of prototypes during the life cycle for a particular product.
13. Kapila has been told by the management that his project **MUST** be completed on time. His best estimates are more than two weeks after the absolute deadline. Which methodology/best Practice should he follow to get a functional system on time?
- (a) Timeboxing
  - (b) Unified Process
  - (c) Risk Management
  - (d) System Prototyping
  - (e) Code and Fix Development

The main difference between the Parallel Development Methodology and the Iterative Development Methodology is that

- (a) the Parallel Development Methodology will have various releases (ex. version 1.0; 2.0, etc.) and the Iterative will not.
- (b) the Parallel Methodology will have concurrent configurations of the project and the Iterative Methodology will have various releases.
- (c) the Parallel Methodology will create various models or prototypes with user involvement before setting on design concepts and the Iterative will not.
- (d) the Iterative Methodology will create various models or prototypes with user involvement before setting on design concepts and the Parallel Methodology will not.
- (e) the Iterative Methodology will break the system project into concurrent projects for analysis, design and implementation and then merge them into a final system and the Parallel will not.

15. Which of the following is the traditional methodology which is used less today as it takes a long time to complete all the system development life cycle steps?

- (a) System prototyping
- (b) Parallel Development
- (c) Iterative Development
- (d) Waterfall Methodology
- (e) Throwaway prototyping

16. Which of the following describes the 80-20 Rule in Rapid Software Development (RSD)?

- (a) Sometimes it takes 80% of the required time to produce 20% of the system.
- (b) Sometimes 80% of the solution can be produced in 20% of the time required.
- (c) Most of the times the system can fulfil 80% of the client requirements and rest of the 20% cannot be fulfilled.
- (d) Most of the times the system can fulfil 20% of the client requirements and rest of the 80% cannot be fulfilled.
- (e) During 20% of the time required to implement the system, 80% of the misunderstandings can be done away with.

17. Which of the following reason/(s) cause/(s) software project failures?

- (a) Schedule pressure of the development team
- (b) Usage of latest technologies which are not stable
- (c) Effective communication among the team members
- (d) Involvement of the end users throughout the development
- (e) Spending more time on requirements gathering and design

18. Which of the following best practice/(s)/methodology/methodologies are applied in Rapid Software Development?

- (a) Backtracking
- (b) Adaptive planning
- (c) Process orientation
- (d) Evolutionary delivery
- (e) Time-boxed development

19. Current agile methodologies such as a Rational Unified Process have evolved over time. Which of the following is/are considered as various stages of current agile methodologies?
- (a) Scrum  
 (b) Crystal clear  
 (c) Waterfall model  
 (d) Iterative waterfall model  
 (e) Feature driven development
20. Which of the following best describes the term “iterative” used in the context of rapid application development?
- (a) Development process is broken in to activities  
 (b) Requirements are gathered many times from the client  
 (c) Single development cycle produces multiple deliverables  
 (d) Short cycle is repeated many times to refine the deliverables  
 (e) Deliverables are provided after multiple cycles of development
21. Which of the following is a/are part/(s) of agile manifesto?
- (a) Processes over tools  
 (b) Collaboration over negotiation  
 (c) Working software over documentation  
 (d) Not following a plan over strict schedule  
 (e) Responding to change over following a plan
22. Which of the following is used to measure the progress in agile software development?
- (a) Man hours spent  
 (b) Working software delivered  
 (c) Man hours left for completion  
 (d) Completeness of the documentation  
 (e) Amount of income received from the client
23. Which of the following is/are true about the phases of Agile Unified Process (AUP)?
- (a) Testing is required only in the construction phase.  
 (b) Project management need not be done in transition phase.  
 (c) Identifying the project scope is mainly done in the inception phase.  
 (d) Deploying the project at the client site is done in the construction phase.  
 (e) The four phases of AUP are Inception, Collaboration, Construction and Transition.
24. Which of the following is/are **not** (a) characteristic/(s) of Scrum model for software development?
- (a) Daily meetings  
 (b) Self-organized team  
 (c) Usually 2-weeks long iterations  
 (d) It uses the product backlog to list/describe the feature list  
 (e) Once a scope for an iteration is selected, no addition of work has to be done.
25. Which of the following is/are true about unit testing?
- (a) Automating unit testing saves time.  
 (b) Acceptance testing is replaced by unit testing.  
 (c) Unit tests replace the work by QA team in a project.  
 (d) It is designed when coding the project is completed.  
 (e) Each of the stories in the current iteration are exercised by unit tests.

26. Which of the following correctly describe/s light weight software development methodologies and heavy weight software development methodologies?

- (a) Agile software developments methodologies belong to the group of heavy weight software development methodologies.
- (b) Waterfall model belongs to the group of light weight software development methodologies.
- (c) A software development methodology is considered as light if hard and fast rules and practices need to be followed.
- (d) A light weight software development methodology is having a few rules and practices which are easy to follow.
- (e) A software development methodology is considered as light by the rules and practices used in the development process.

27. Which of the following is/are true about Agile Unified Process (AUP)?

- (a) AUP is same as Rational Unified Process.
- (b) It is a simplified version of Rational Unified Process.
- (c) AUP is an obsolete software development methodology.
- (d) It has taken the best practices of Rational Unified Process.
- (e) Incremental and iterative development is not used in AUP.

28. What is meant by the feature “early programming” referred in agile methodologies?

- (a) Start coding as soon as project is started.
- (b) Few programmers get up early in the morning and do coding.
- (c) Coding should be started prior to any documentation work.
- (d) Start programming early and have something to show to the customer as soon as possible.
- (e) Coding need to be considered as the first task of the day when following agile methodologies.

29. Which of the following is/are true about “Story Cards” in the context of agile software development?

- (a) Story cards are used in scrum.
- (b) They are drown on a white board.
- (c) Functional requirements are recorded using story cards.
- (d) Non - functional requirements are recorded using story cards.
- (e) Story cards are used to define the classes of the software system.

30. Which of the following describe/s the terms “chickens and pigs” in the context of agile software development?

- (a) The managers in the team are referred as pigs.
- (b) These terms are used in extreme programming.
- (c) The team members who remain silent are called chickens.
- (d) The team members who talk in the meetings are called pigs.
- (e) The managers who do not talk in the meetings are called chickens.

\*\*\*\*\*