



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2013/2014 – 2nd Year Examination – Semester 4

IT4304: Rapid Software Development

Part 1: Multiple Choice Question Paper

20th 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 drawn 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.
