



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)
Academic Year 2010 /2011 – 2nd Year Examination – Semester 4

IT4304: Rapid Software Development
PART I – Multiple Choice Question Paper
7th August 2011
(ONE HOUR)

Important Instructions :

- The duration of the paper is **1(one) hour**.
- The medium of instruction and questions is English.
- The paper has 27 **questions** and 07 **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 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.**

1) Identify the problem(s) addressed by modern rapid software development methods.

- (a) Change of business requirements during a software project
- (b) Low customer involvement in the development process
- (c) Total system failure at the end of development
- (d) Less documentation is produced during the project
- (e) Less involvement of management in the developing project

2) Which of the following activity(ies) would help in building customer satisfaction in software development projects?

- (a) Selecting an appropriate software development life cycle model
- (b) Pay more attention to customer related risks in the risk-management planning and risk monitoring process
- (c) Conducting focus group meetings in identifying the customer needs
- (d) Adopting customer oriented requirements gathering techniques in requirements gathering phase
- (e) Not committing to a set of written requirements with the customer

3) In estimating a software project,

- (a) a precise estimation can be obtained only after completing the requirements specification.
- (b) Cocomo is an algorithmic approach to provide fine-tuned estimation of the size of a project.
- (c) a function point is a unit of measurement to express the amount of business functionality an information system provides to a user.
- (d) standard schedule tables can be used to look up a schedule estimate for the project based on size.
- (e) creating an accurate analytical estimate guarantees that the estimate will actually be scheduled to support efficient development.

4) Which of the following is(are) affected by schedule pressure in a software project?

- (a) Software quality
- (b) Motivation of developers
- (c) Creativity of software developers
- (d) Turnover of developers
- (e) Relationship between developers and managers

5) Which of the following statements is (are) true in relation to high performance teams?

- (i) Results-driven structure is a characteristic of high performance team.
- (ii) Team members do not rely on other individuals' strengths.
- (iii) Effective teams have a feeling that they are free to do whatever is necessary to make the project a success.

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

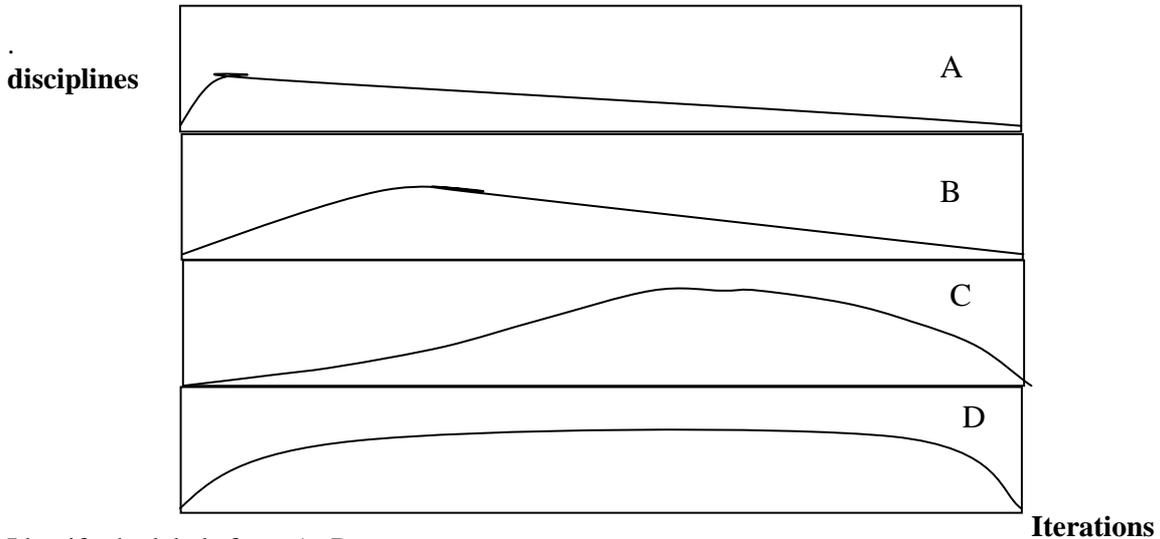
6) Consider the following remark.

“I still think we ought to go back to our last decision and change it to the other option”

Which of the following is most suitable to describe the above remark?

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|--------------------------|---------------------------|
| (a) Problem personnel | (b) Competent team member |
| (c) Chief programmer | (d) SWAT team member |
| (e) Business team member | |

7) Consider the graph below that shows the disciplines across iterative and incremental development.



Identify the labels from A- D.

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|---------------------|-----------------|-------------------|-------------------|
| (a) A. Requirements | B. Test | C. Design | D. Implementation |
| (b) A. Test | B. Requirements | C. Design | D. Implementation |
| (c) A. Requirements | B. Design | C. Implementation | D. Test |
| (d) A. Maintenance | B. Design | C. Implementation | D. Test |
| (e) A. Requirements | B. Maintenance | C. Implementation | D. Test |

8) If it is estimated that a particular software project takes 125 man-months, what will be the suitable team size of the project?

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|------------|--------------|-------------|
| (a) 5 or 6 | (b) 7 or 8 | (c) 9 or 10 |
| (d) 8 or 9 | (e) 15 or 16 | |

9) Consider the following statements related to estimation of a software project,

- (i) Separate estimators are more accurate as developer- based estimates are more likely to underestimate the project.
- (ii) Estimates based on detailed examination of project activities are more accurate.
- (iii) Software estimation tools provide more accurate scheduling on large projects.

Which if the above statements is(area) correct?

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|------------------------|---------------|-------------------------|
| (a) (i) only | (b) (ii) only | (c) (ii) and (iii) only |
| (d) (i) and (iii) only | (e) ALL | |

10) Consider the following description.

“Choice of features for the next iteration comes from the client. The client steers the project , iteration by iteration, requesting the features that they currently think are most valuable.”

Which of the following terms can be used to best match the above?

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|------------------------------------|--------------------------------------|
| (a) Risk driven iterative planning | (b) Client driven iterative planning |
| (c) Iterative development | (d) Rapid iterative development |
| (e) Time boxed development | |

11) Which of the following is(are) rapid application development constraints?

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|--------------------------------|--------------------------------|
| (a) Performance of the project | (b) Project distribution |
| (c) Project scope | (d) Reliability of the project |
| (e) Modularity | |

12) Which of the following is(are) true in relation to rapid application development?

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| (a) Rapid application developments are used for developing applications that are data intensive. |
| (b) Lot of application functionality can be implemented quickly but always at high cost. |
| (c) Rapid application development projects are easy to maintain. |
| (d) Visual development is an approach to rapid application development. |
| (e) Interface generator tools are used in rapid application development. |

13) Following is a list of statements a student made on prototyping.

- (i) Delivering a throw away prototyping can always result in poor maintainability and poor performance.
- (ii) Database organization cannot be prototyped using 4GL.
- (iii) A major problem in throw away prototyping is unrealistic schedule and budget expansion.
- (iv) Throw away prototyping is used when it is not known at the outset exactly what is to be built.
- (v) Throw away prototyping always focus prototyping efforts on areas that are poorly understood.
- (vi) Throw away prototyping provides a good opportunity to train inexperienced programmers.
- (vii) Throw away prototyping provides resistance to creeping requirements.

Which of the above statements is(are) correct?

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|----------------------------------|-----------------------------------|
| (a) (i), (v), (vi), (vii) only | (b) (i), (ii), (vi), (vii) only |
| (c) (iv), (v), (vi), (vii) only | (d) (ii), (iii), (vi), (vii) only |
| (e) (ii), (iii), (v), (vii) only | |

14) Consider the following description.

X is a technique for building complex, larger systems. It strongly encourages incremental, iterative development with constant prototyping. The process is carried out in three-phase cycles as speculation, collaboration and learning.

What is X?

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|-----------------------------------|--------------------------------------|
| (a) Lean development | (b) Agile unified process |
| (c) Adaptive software development | (d) Dynamic solutions delivery model |
| (e) Extreme programming | |

15) In iterative and incremental delivery of software projects,

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| (a) producing a lot of system documentation is not cost effective. |
| (b) problems may arise in using existing staff skills. |
| (c) there can be maintenance problems due to collapse of structure. |
| (d) independent validation is made easy. |
| (e) contractual model is based around system specification. |

16) Which of the following is(are) true in relation to extreme programming?

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| (a) All requirements are expressed as user stories. |
| (b) Story cards are developed with the help of the customer. |
| (c) Tests are developed for each task before writing the code. |
| (d) Customers are not involved in prioritizing requirements. |
| (e) It takes an extreme approach to iterative development. |

17) Select correct statement(s) related to Timebox development.

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|---|
| (a) It is most applicable to in-house business software. |
| (b) The schedule is made absolutely fixed. |
| (c) It always demotivates developers but motivates the end users. |
| (d) It helps in controlling feature creep. |
| (e) It focuses more attention on the low priority tasks. |

18) Identify agile principles from among the following.

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| (a) Working software is the primary measure of progress. |
| (b) Face-to-face conversation is the most effective and efficient method of communication. |
| (c) All requirements are fixed after the design stage. |
| (d) Heavy documentation from the beginning of the project. |
| (e) Agile processes promote sustainable development. |

19) JIRA is a popular tool used in agile development.
Identify the feature(s) available in JIRA from among the following.

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|---|----------------------|
| (a) Requirements management | (b) Project tracking |
| (c) Reports and analysis | (d) Issue tracking |
| (e) version controlling and integration | |

20) In Scrum,

- (a) new requirements or extra projects can be added to the team members during an iteration.
- (b) work is usually organized in 45- calendar-day iterations called sprints.
- (c) manager or scrum master decides on how to solve problems.
- (d) a monthly stand-up meeting is held at which some special questions are answered.
- (e) maximum number of members in a team is recommended as seven.

21) Consider the following statements in relation to Content Management Systems (CMS).

- (i) CMS provides easy content creation and editing for non- technical content contributors.
- (ii) Learning content management systems use SCORM implementation to create reusable e-learning materials.
- (iii) In choosing the best content management system for developing a system, one has to consider only the cost and simplicity.
- (iv) Strong support of e-commerce interactions and their capability to interface with legacy systems for the transfer of product information is always an advantage of transactional content management systems.

Which of the above statements is (are) true?

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

22) Match column X with Y.

| X | Y |
|----------------|---------------------------------------|
| (i) Moodle | A. Web content management system |
| (ii) Drupal | B. Learning content management system |
| (iii) Alfresco | C. Document management system |

- (a) (i) D, (ii) A, (iii) B , (iv) C
- (b) (i) B, (ii) C, (iii) D, (iv)A
- (c) (i) B, (ii) D, (iii) C , (iv) A
- (d) (i) A, (ii) D, (iii) B , (iv) C
- (e) (i) B, (ii) A, (iii) D , (iv) C

23) Which of the following statements is (are) true in relation to pair programming?

- (i) Pair programming is an extreme programming practice.
- (ii) Two programmers sit together at the same work station in developing the software.
- (iii) It emphasizes that the team has collective responsibility for resolving problems in the software product.

(iv) Development productivity with pair programming is always less than that of two people working independently.

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| (a) (i) and (ii) only. | (b) (ii) and (iii) only. | (c) (i), (ii) and (iii) only. |
| (d) (i),(ii) and (iv) only. | (e) ALL. | |

24) Which of the following are characteristics of the Agile Unified Process?

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| (a) High level planning and visual modeling of customer requirements |
| (b) Testing process starts only when the system is complete |
| (c) Starts programming when a part of the most significant requirements are understood |
| (d) Iterative and evolutionary systems development method. |
| (e) Deadlines are movable but the scope of the system cannot be changed |

25) Select correct statement(s) related to extreme programming.

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| (a) Stories that describe the required features and functionality of the system are written by customer. |
| (b) Developer assigns a priority value to each story based on the business value. |
| (c) Unit tests are created to exercise each of the stories in the current iteration. |
| (d) Codes are integrated in the continuous integration strategy. |
| (e) Code reviewing is done at a minimum level. |

26) Consider the following statements related to database connectivity in NetBeans IDE.

- (i) There is a built-in SQL editor for database connectivity but no built-in support for Oracle database.
- (ii) It auto detects existing MySQL databases.
- (iii) Database explorer allows making connections to database servers, view and changes the database schema.

Which of the above statements is (are) correct?

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|--------------------------|-------------------------|
| (a) (i) only. | (b) (i) and (ii) only. |
| (c) (ii) and (iii) only. | (d) (i) and (iii) only. |
| (e) ALL. | |

27) Agile methodology may fail if ,

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| (a) teams are not given sufficient training and hand-on experience on being agile before practicing agile. |
| (b) teams are told to push on and move forth with iterations or outcomes without a quality assurance process. |
| (c) agile teams working on a project are in the same building. |
| (d) proper risk management techniques are not employed in the process. |
| (e) client does not understand the amount of communication involved in the process. |

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