



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 2: Structured Question Paper

20th July, 2014
(ONE HOUR)

To be completed by the candidate

BIT Examination Index No: _____

Important Instructions:

- The duration of the paper is **1 (one) hour**.
- The medium of instruction and questions is English.
- This paper has **3 questions** and **10 pages**.
- **Answer all questions.** First and second questions carry 30 marks each and third question carries 40 marks.
- **Write your answers** in English using the space provided **in this question paper**.
- Do not tear off any part of this answer book.
- Under no circumstances may this book, used or unused, be removed from the examination hall by a candidate.
- Note that questions appear on both sides of the paper.
If a page is not printed, please inform the supervisor immediately.

Questions Answered

Indicate by a cross (×), (e.g.

×

) the numbers of the questions answered.

To be completed by the candidate by marking a cross (×).	1	2	3	
To be completed by the examiners:				

(1)

(a) Write down three (03) advantages of using Rapid Software Development (RSD).

(6 Marks)

ANSWER IN THIS BOX

(b) Give three (03) disadvantages of using Rapid Application Development (RAD) in Software development.

(6 Marks)

ANSWER IN THIS BOX

(c) One of the four dimensions of development speed is considered as “People”. Briefly explain how “People” impact on the development speed.

(6 Marks)

ANSWER IN THIS BOX

- (d) Give two (02) functionalities of a Content Management System (CMS) which is used in web applications development. **(5 Marks)**

ANSWER IN THIS BOX

- (e) i. Write down two (02) advantages of using “Iterative and Incremental Model”. **(4 Marks)**

ANSWER IN THIS BOX

- ii. What is meant by a particular “Iteration” of a project which is implemented by using “Iterative and Incremental Model”? **(3 Marks)**

ANSWER IN THIS BOX

(2)

- (a) Name the three (03) size estimation approaches of a software project. **(3 Marks)**

ANSWER IN THIS BOX

- (b) What is meant by “Function Point Estimation” in the context of Rapid Application Development? **(2 Marks)**

ANSWER IN THIS BOX

- (c) If a particular project is scheduled to be completed in 18 months, how many members should work on that project? Show all the steps of the calculation. **(6 Marks)**

ANSWER IN THIS BOX

- (d) Write down the following details in connection with a “SWAT Team” in the context of software development teams.

i) Definition ii) Attributes of the team iii) Best fitted applications for this team

(6 Marks)

ANSWER IN THIS BOX

- (e) Give three (03) disadvantages of using Prototyping. (3 Marks)

ANSWER IN THIS BOX

- (f) Draw a diagram to illustrate the Software Prototyping Model. (10 Marks)

ANSWER IN THIS BOX

(3)

- (a) The table below lists seven main characteristics of “Agile Software Development”. Briefly explain (explain in two (2) lines) **five (05)** of them. **(2x5=10 Marks)**

Characteristic	Explanation
Modularity	
Iterative	
Time-Bound	
Parsimony	
Adaptive	
Convergent	
Collaborative	

- (b) Your company is the software development branch of a leading software service provider (provides services such as installation and maintenance of software and hardware) in the country.

Your company made a bid and won a project to create a “learning management software” (such as Moodle, but with additional features which support distance learning) for an institute which conducts courses and examinations for accountancy and management related subjects. The full software needs to be delivered in 8 months, but, your client wants to have a usable system (with fewer features) so that he can use it for training their

lecturers and students. Being new for the software development, your company is not having a well-established software development methodology.

Your company is having following human resources.

Senior Management	3
Project Manager	1
Business Analysts	3
Technical Writers	1
UI Designers/Engineers	3
Software Engineers	4
Integration and deployment engineers	4

The Senior Management of the company wants you to suggest a suitable software development methodology for this project.

- i. Discuss the applicability of the following software development methodologies for this project. Which one of the following software development methodologies would you recommend?

Waterfall model, Waterfall model with back tracking and Iterative and Incremental model (3 x 3 = 9 marks)

(3 x 3 = 9 marks)

ANSWER IN THIS BOX[illegible]

- ii. Since the project duration is decided as eight (08) months and you need to provide a usable software in four (04) months, draw how you plan (to analyse, design, implement and deliver) the phases of the project over time. (5 Marks)

ANSWER IN THIS BOX

- iii. After further discussions between the development team members, the project manager and the senior management, everybody is agreed to use scrum as the software development methodology.
List five (05) advantages of scrum methodology. (6 Marks)

ANSWER IN THIS BOX

- iv. What are meant by the terms ‘Sprint’ and ‘Sprint Backlog’ in scrum? **(5 marks)**

ANSWER IN THIS BOX

- v. It is given that the sprint duration is one (01) month (30 days approx.)
List five (05) – seven (07) tasks that you would think as appropriate for the 4th sprint of the project.
Then, draw the sprint backlog for the start of the 4th sprint, including at least three of the mandatory columns (other than task list). In the sprint backlog, include the above listed tasks. **(5 marks)**

ANSWER IN THIS BOX

[illegible]