



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2007/2008 –2nd Year Examination – Semester 4

IT4303 : Rapid Application Development
PART 2 - Structured Question Paper

7th September, 2008
(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 **04 questions** and 08 **pages**.
- **Answer all questions**
- **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 (X), (e.g.

| |
|---|
| X |
|---|

) the numbers of the questions answered.

| To be completed by the candidate by marking a cross (X). | Question numbers | | | |
|--|------------------|---|---|---|
| | 1 | 2 | 3 | 4 |
| To be completed by the examiners: | | | | |
| | | | | |
| | | | | |

1)

- a) State three (3) general characteristics of the Rapid Application Development (RAD) approach.

[06 Marks]

ANSWER IN THIS BOX

| |
|--|
| |
| |
| |
| |
| |

- b) Name two (2) disadvantages of using the Rapid Application Development (RAD) approach.

[04 Marks]

ANSWER IN THIS BOX

| |
|--|
| |
| |
| |
| |

- c) State three (3) process related classic mistakes committed during software development.

[06 Marks]

ANSWER IN THIS BOX

| |
|--|
| |
| |
| |
| |
| |

- d) Name three (3) characteristics which one needs to consider in selecting a Rapid Application Development (RAD) tool for software development.

[04 Marks]

ANSWER IN THIS BOX

2)

a)

Compute the adjusted total number of function points for a payroll program that reads a file of employees and a file of information for the current month and print cheques for all the employees. The program is capable of handling an interactive command to print an individually requested cheque immediately.

Function point multipliers:-

Function points

| Program characteristic | Simple | Average | Complex |
|-------------------------------|---------------|----------------|----------------|
| Inputs | 3 | 4 | 6 |
| Outputs | 4 | 5 | 7 |
| Logical internal files | 7 | 10 | 15 |
| Inquiries | 3 | 4 | 6 |
| External interface files | 5 | 7 | 10 |

Consider *Influence multiplier* as 1.15. State your assumptions if there's any.

[10 Marks]

ANSWER IN THIS BOX

- b) Give a strength and a weakness of the function-point metric.

[04 Marks]

ANSWER IN THIS BOX

Strength:

Weakness:

- c) Overly optimistic scheduling leads to excessive schedule pressure on developers. Give three (3) negative effects of excessive schedule pressure on software development.

[06 Marks]

ANSWER IN THIS BOX

3)

a) State three (3) principles behind agile software development.

[06 Marks]

ANSWER IN THIS BOX

b) Give an overview of the SCRUM software development process using a diagram.

[10 Marks]

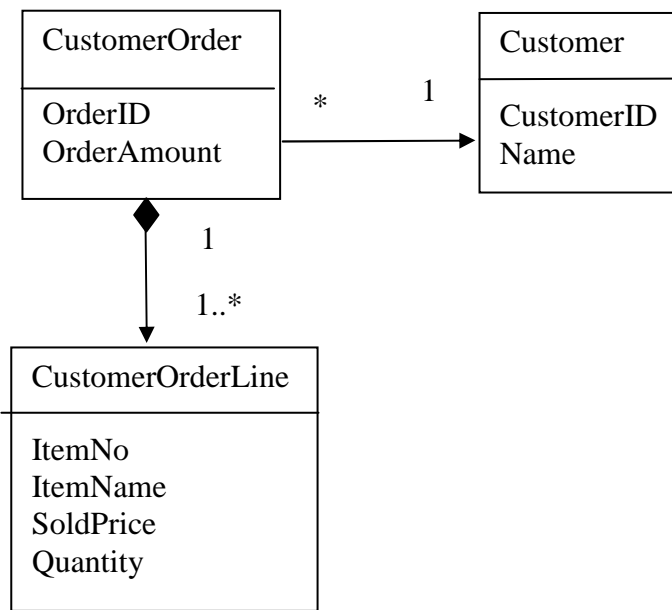
ANSWER IN THIS BOX

c) What is time boxing in relation to software development projects? How does it affect the software development process?

[04 Marks]

ANSWER IN THIS BOX

- 4) Consider the following UML diagram for an Order entry system.



Questions 4.a) to 4.c) are based on the above UML diagram..

- a) Suppose the above order entry system is developed using NetBeans which generates Java coding. Write the java code so generated for the CustomerOrder class. (Implementation of methods is not required)

[20 Marks]

ANSWER IN THIS BOX

- b) Suppose you have to design a Graphical User Interface to enter order details. Interface should provide facility to select CustomerId from an existing list and also to type CustomerId if it is known. Also there should be a facility to verify customer details.

Design the GUI and name the Swing containers and Swing controls as in NetBeans Matisse GUI builder.

NOTE: Consider only the requirements given in the above simplified UML diagram.

[15 Marks]

ANSWER IN THIS BOX

- c) Name the event that can be used to validate a typed in CustomerId.

[06 Marks]

ANSWER IN THIS BOX
