



UNIVERSITY OF COLOMBO, SRI LANKA



UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING



DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)
Academic Year 2005/2006 – 2nd Year Examination – Semester 4

IT4202: Software Project Management

PART 2 - Structured Question Paper

5th August 2006

TWO HOURS

To be completed by the candidate

BIT Examination Index No: _____

Important Instructions:

- The duration of the paper is **2 (Two) hours**.
- The medium of instruction and questions is English.
- This paper has **3 questions** and **12 pages**.
- **Answer ALL 3 questions.** Question **1** carries **50 marks** and the **other two** questions carry **25 marks each**.
- **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 question numbers of the questions answered.

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

The question 1 of this question paper is based on this case study.

Case Study

You have been appointed the IT Officer of a government department. The department has no IT division at present. Several computers, bought at different times, are being used for office work at different locations in the department. There are some computers which have minor defects but not been repaired. There is a new computer that had been granted by a donor but not used at all. The department has 50 employees.

You have been asked to manage a project to make a payroll system for the department and also to make a website for the department. You may buy hardware required for this project only after making efficient use of the existing hardware in the department. For that, you must investigate the present usage of computers in the department and make the usage efficient by reducing wastage and duplication. You also have to investigate the feasibility of repairing the defective computers and get them repaired if feasible. You may decide to recruit staff on contract basis to work on the project. You plan to use open-source software for the development platform and thus there is no cost involved in obtaining them. However, these platform software need to be installed in the computers. The department already has an internet connection.

This project needs to be finished by 5th November 2006. The budget that has been allocated for this project is Rs. 200,000.

- 1) (a) List the criteria that must be met for the success of this project.

(03 marks)

ANSWER IN THIS BOX

Index No:

- (b) Complete the following table for the project. In the **Activity** column, list the level-1 Work-breakdown-structure activities. In the **Duration** column, list the activity duration in weeks. In the **Precedents** column indicate the other activities which must be performed before the corresponding activity on the row can start. (Note: Your answer may or may not use all the rows in the table)

(12 marks)

ANSWER IN THIS BOX[illegible]

(c) Draw an activity network diagram for this project.

(10 marks)

ANSWER IN THIS BOX

(d) Describe the method to find the critical path in the above diagram.

(04 mark)

ANSWER IN THIS BOX

(e) Describe the method to create the resource plan for this project using a bottom-up approach.

(03 marks)

ANSWER IN THIS BOX

(f) How would you estimate the cost of this project?

(05 marks)

ANSWER IN THIS BOX

(g) Write a short note on making a budget for this project. What is the importance of a budget?

(05 marks)

ANSWER IN THIS BOX

(h) Comment on risk management of this project.

(08 marks)

ANSWER IN THIS BOX

- 2) (a) Outline the steps that you will follow when you recruit new staff for the projects which you manage. **(10 marks)**

ANSWER IN THIS BOX

ANSWER IN THIS BOX

- (b) What is *resource levelling*?

(05 marks)

ANSWER IN THIS BOX

ANSWER IN THIS BOX

- (c) Write a short note on *source selection* in procurement management.

(10 marks)

ANSWER IN THIS BOX

- 3) (a) McCall's *quality factors* reflect the external view of software that users would have. Outline how the quality factors listed below can be achieved. E.g., A way to achieve the quality factor *efficiency* is to use good algorithms.

(5 marks)

ANSWER IN THIS BOX	
Quality Factor	Ways to achieve
Reliability	
Usability	
Maintainability	
Portability	
Functionality	

- (b) Write your views on quality management.

(05 marks)

ANSWER IN THIS BOX

(c) Describe *change control*.

(10 marks)

ANSWER IN THIS BOX

Handwriting practice area with horizontal dashed lines.

- (d) Frederick Brooks, in his famous text book "The Mythical Man-month" recommends to use the following rule to schedule a software task:
- One-third ($1/3$) of the time: planning
 - One-sixth ($1/6$) of the time: coding
 - One-fourth ($1/4$) of the time: component test and early system test
 - One-fourth ($1/4$) of the time: system test

Comment on that recommendation especially with regard to the scheduled time for testing.

(05 marks)

ANSWER IN THIS BOX

ANSWER IN THIS BOX
