



**UNIVERSITY OF COLOMBO, SRI LANKA**

**UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING**

**DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)**

**Academic Year 2012/2013 – 2<sup>nd</sup> Year Examination – Semester 4**

***IT4204 – IT Project Management***  
***PART 2 - Structured Question Paper***

**20<sup>th</sup> July, 2013**  
**(ONE HOUR)**

**To be completed by the candidate**

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**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 **8 pages**.
- **Answer all questions.** All questions **do not** carry **equal 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 (X), (e.g. 

X
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) the numbers of the questions answered.

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

- 1) (a) Consider the Table 1 below that gives the cash flow projections of two projects, X and Y. These projects are to be completed in three years.

Year	Project X (Rs)	Project Y (Rs)
0	-200000	-100000
1	50000	50000
2	50000	50000
3	200000	50000

Table 1: Project cash flow projections (Amounts are end of year totals.)

- (i) For project Y, the expected cash flow after year 2 is Rs.50,000. Using a discount rate of 10% (which is equal to the existing bank interest rate) compute the net present value (NPV) of **the Year 2 Rs.50,000** cash flow. (Note: Discount Factor =  $\frac{1}{(1+R)^T}$  where R=discount rate expressed as a decimal value and T= the number of years into the future)

[3 marks]

**ANSWER IN THIS BOX**

- (ii) Explain how one would use the NPV metric to evaluate the two projects X and Y.

[7 marks]

**ANSWER IN THIS BOX**

- (b) Define *payback period*. How would one use it to evaluate two projects?

[4 marks]

### ANSWER IN THIS BOX

- (c) Define *return on investment*. How would one use it to evaluate two projects?

[3 marks]

**ANSWER IN THIS BOX**

2) (a) Read the following:

*The task that you have been assigned as the IT manager of your local hospital is to plan and manage the computerization project of its clinic booking system which is at present done manually. The present system causes a lot of inconvenience to patients as they have to come very early in the morning to get an appointment number. The obtained appointment time may be late in the morning or in the afternoon, which means that they have to waste their time in the hospital. Sometimes they may even not get a number which means that their effort was wasted and that they have to come again. With the planned system, the patients would be able to book a clinic appointment from home via the Internet. They will be able to get a printout of their appointment chit which they can use to pay the required fee to the hospital cashier and to get permission to consult a doctor. There are several things that you have to do in the project. Since the hospital does not have computers at present, you have to buy them; the requirement is for two computers: one to be used at the cashier, and the other a web server. The bank has no Internet connection at present and thus, you need to obtain it too. The computers need operating systems, the required programming language compilers and programming tools, and the web-server software. Since there is no IT staff at present, you need to hire the relevant staff too.*

Draw the work breakdown table for the above project. (Note: Your table should contain nine (09) first-level tasks, their durations in weeks and their dependencies.)

[11 marks]

**ANSWER IN THIS BOX**

- (b) Consider the following Work Breakdown Table of a project:

Task	Duration (days)	Dependencies
A	3	-
B	2	A
C	10	-
D	10	C
E	3	B,D

- (i) Draw the **activity-on-node** network diagram for the above project. Do the forward pass, the backward pass and write the earliest start, earliest finish, latest start, and latest finish days for each activity. Also mark the **critical path** on your diagram.

[5 marks]

**ANSWER IN THIS BOX**

(ii) The computer requirements for each of the above project tasks are given below:

Task	No.of computers needed
A	4
B	0
C	4
D	0
E	0

Write down how you can reduce the computer requirement in the above project by *resource levelling*.  
[5 marks]

**ANSWER IN THIS BOX**

- 3) (a) A company is trying to decide between two projects, Project A and Project B, to select one to send a proposal. The company estimates that there is a 30% probability that they will win the contract for Project A, which is estimated to be worth Rs.400,000 in profits. There is a 70% probability that it will not win the contract for Project A, and the loss is estimated to be Rs. 50,000. The company also estimates that there is a 80% probability that it will get the contract for Project B to earn a profit of Rs.100,000. The loss if it is not awarded the contract for Project B is Rs. 25,000. The company does not have the funds to invest in both these projects. By drawing a decision tree and computing Earned Monetary Value (EMV), decide for which project the company should send a proposal.

[8 marks]

**ANSWER IN THIS BOX**

- (b) “From a buyer’s perspective, the *cost plus percentage of costs (CPPC) contract* is the least desirable type of contract.” Why?

[4 marks]

**ANSWER IN THIS BOX**

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