



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

IT4203: IT Project Management
PART 2 - Structured Question Paper

6th 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 **9 questions** and **9 pages**.
- **Answer all questions which carry different marks as indicated.**
- **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. ☐) the numbers of the questions answered.

To be completed by the candidate by marking a cross (X).	Question numbers								
	1	2	3	4	5	6	7	8	9
To be completed by the examiners:									

Read the following case study about LabSoft Registration System and answer questions 1- 7 based on this case study.

LabSoft Registration System

A new on-line system was deployed to centrally record births, deaths and marriages. However hundreds of registrars' offices in divisional secretariat across the island have been ordered to abandon the system temporarily. The huge Rs. 100 million IT project, LabSoft Registration System, has met with "**complete system failure**" and online registration has been suspended in half the 2,000 offices.

A registrar said that since it was known in advance exactly how many staff would be using the system every day, volume testing had clearly been inadequate. Concerns raised by staff about the reliability of the new system were dismissed, the registrar said. A spokesman for the LabSoft said testing had been thorough. "There was a lengthy period performance testing to see if the new system could cope with the load and we ran two different pilot programmes," he said. "Those were successfully completed, and in March, we began the phased roll-out to all areas. To begin with, it seemed to go pretty well, but when the last section was added on, it produced problems of slow performance. We decided to withdraw the system in some areas, half have gone back to using the old electronic system. There will be no loss of data, registration will go ahead as normal and we are going full steam ahead in trying to sort out the problem."

The hardware and software, developed by a company named "LabSoft" was tested extensively before being introduced at registrars' offices divisional secretariat late last year. However, when the last batch of offices was added in March, the new system almost ground to a halt. Officers said that its performance was so slow that it was unusable. When IT staff of LabSoft came to try and sort it out, they found that it could not reliably save data.

However, registrars say there are no arrangements or funding in place for all the hundreds of hours of overtime that will be required to enter all the data, currently being held in handwritten registers and the old computer system, on to the online system once it has been fixed.

- 1) Identify at least three stakeholder groups in the above project.

(6 marks)

ANSWER IN THIS BOX

Registrars in divisional secretariat in districts, Family members of dead
LabSoft IT staff, staff of divisional secretariat office, relevant ministry of internal
administration

- 2) There are several reasons for the failure of the LabSoft Registration System. Identify key factors for the failure with respect to management of this project.

(6 marks)

ANSWER IN THIS BOX

Reliability is the key factor in the system and it depends on the scope of the project.
Managers of the LabSoft would not have planned the project giving high priority for
“reliability” from the inception of the project.

- 3) According to LabSoft project, it is clear that the project managers had not properly identified project risks.

Identify 5 negative risks which are very important for the deployment in the LabSoft project.

(15 marks)

ANSWER IN THIS BOX

Poor system performance when number of register/offices increase

Reliability of data transfer when the online connection is not stable/poor

Functionality of the system when the system cannot connect to main central database

Negative user reaction when a new system is introduced

Transition of the system from existing system to online central system

- 4) Consider following factors for the success of any IT project.

(a) *Executive management support*, (b) *Clear statement of requirements*, (c) *Proper planning and*
(d) *User involvement*.

With respect to LabSoft Project, list them according to their relative importance.

(7 marks)

ANSWER IN THIS BOX

User Involvement,

Executive Management Support,

Clear statement of requirements

and proper planning

- 5) The **cost of quality** is the cost of conformance plus the cost of non-conformance. Define cost of conformance and cost of non-conformance.

(6 marks)

ANSWER IN THIS BOX

- **Conformance** means delivering products which meet requirements and fitness for use.
- **Cost of nonconformance** means taking responsibility for failures or not meeting quality expectations.

6) What is the conformance cost of LabSoft project?

To calculate the non-conformance cost, identify 5 factors based on the case study description.

(10 marks)

ANSWER IN THIS BOX

Rs. 100 million

Factors to determine non-conformance cost:

gathering lost data, re-entering data, re-issue of certificates, damages due to delay of proper delivery of product, additional cost to develop new modules/development in the labsoft system,

7) Suppose an expert team is appointed to rescue LabSoft project and they suggest to establish a decentralized system using the current system. Hence each divisional secretariat will have a local database and it will connect to the central database at different time intervals to avoid central server overload. LabSoft development team whose productivity rate is 12 said that they can fully use the existing system to develop a local system by modifying 6 modules in the system. Calculate the total effort in the person-months using COCOMO II early prototyping formula to develop the local system for 2000 registrars' offices in divisional secretariat.

Hint: COCOMO II Early prototyping formula

$$PM = \frac{NOP * \left(1 - \frac{\%reuse}{100}\right)}{PROD}$$

(10 marks)

ANSWER IN THIS BOX

$6 \times 1/12 = 0.5$ man months

8)

What is the critical path in a project network? Why is it so important in the time management of a project?

(10 marks)

ANSWER IN THIS BOX

A critical path for a project is the series of activities which determine the *earliest time* by which the project can be completed. The critical path is the *longest path* through the network diagram and has the least amount of slack or float

If one or more activities on the critical path takes longer than planned, the whole project schedule will slip *unless* corrective action is taken

9)

Given below is an activity list for a project. Draw a network diagram by using Activity-On-Node approach.

Activity Identifier	Preceding Activity	Duration in weeks
A.	-	5
B.	-	4
C.	A	2
D.	C	4
E.	B	5
F.	B	5
G.	B, C	4
H.	F	3

Write different paths together with completion duration.

Identify critical path(s) in the diagram.

What is the duration of critical path?

If the activity C is delayed by one week, does it affect the critical path?

What is the new duration of the critical path?

(30 marks)

ANSWER IN THIS BOX

ACD = 11

BFH = 12

BE = 9

ACG = 11

BG = 8

BFH

12 weeks

No, still 12 weeks.


