

**SOUTH EASTERN UNIVERSITY OF SRI LANKA**

SECOND EXAMINATION IN BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY FOR  
MANAGEMENT STUDIES - 2009/2010  
SEMESTER -I, AUGUST - 2011

**ITMS 3133 - SOFTWARE PROJECT MANAGEMENT**

Answer all questions (Calculator is allowed, Graph paper should be used where necessary)

Time : 03 hours

**Question 1**

a. Planning is an important and initial step for the success of any project but every project is constrained in different ways. Describe the constraints associated with a project. [5 Marks]

b. Describe project attributes in detail. [8 Marks]

c. Illustrate the project management techniques with suitable example [7 Marks]

[Total 20 Marks]

**Question 2**

a. "Quality is the ability of a product or service to meet customer needs." You are requested to discuss the principle of quality management in detail. [5 Marks]

b. It is said that the quality is always the result of intelligent effort. There are a number of tools that are particularly helpful in TQM. Discuss the main tools of TQM. [5 Marks]

c. The followings are the reasons for the failure of a software project development. You are requested to develop a Pareto analysis and interpret the case.

Reasons for the failure	Frequency
Incomplete requirements	15
Lack of users involvement	7
Lack of Resources	25
Unrealistic expectations	2
Lack of executive support	2
Changing requirements and specifications	9

[4 Marks]

d. Explain the following terms briefly:

- Cost of quality
- Empowerment
- Benchmarking
- Quality Circle

[6 Marks]

[Total 20 Marks]

### Question 3

- a. Compare and contrast Activity On Node (AON) and Activity On Arrow (AOA). [4 Marks]
- b. ABC (Pvt.) Ltd., is developing a plan for implementing an Enterprise Resource Planning (ERP) system for the company operation. The CIO has listed a number of activities that must be accomplished in order to implement program successfully. The activities, immediate predecessors and times appear in the accompanying table.

Activity	Immediate Predecessors	Time (Days)
A	-	5
B	A	9
C	A	4
D	A	5
E	C,D	5
F	B	5
G	D	2
H	G	7
I	E	5
J	F,I	3
K	J	7
L	G	9
M	K,L,H	1

- Develop an AON network diagram for this problem. [10 Marks]
  - Identify the critical path(s) and total project completion time. [3 Marks]
  - What is the slack time for each activity? [3 Marks]
- [Total 20 Marks]

### Question 4

- a. Explain the following terms:
- NPV
  - ROI
  - IRR

[6 Marks]

The XYZ Company plans to complete its Information Technology Project within four years. The detail of the project is as follows:

	Year 0	Year 1	Year 2	Year 3
Estimated cost	250,000	50,000	50,000	50,000
Estimated benefits	0	100,000	175,000	225,000

- b. Perform a financial analysis for the project considering the discount rate of 9%. Calculate and clearly display NPV, ROI and the payback period for the above project.

[14 Marks]

[Total 20 Marks]

**Question 5**

- a. There are several tools and techniques available to assist cost estimation. You are requested to describe the four commonly used tools and techniques.

**[8 Marks]**

- b. In the process of implementing a project, there is a need for a rigorous control. If there is a deviation in the project, it affects the cost of the project adversely. The cost/schedule system allows managers to have a positive influence on cost and schedule in a timely manner.

Assume you are the project manager for one year project and the detail of the project is as follows:

PV =Rs.130,000

EV =Rs.100,000

AC =Rs.150,000

BAC =Rs. 900,000

- What is the cost variance, schedule variance, cost performance index (CPI) and schedule performance index (SPI) for the project?

**[6 Marks]**

- How long the project doing? Is it ahead of schedule or behind schedule? Is it under budget or over budget?

**[2 Marks]**

- Use the CPI to calculate the estimate at completion (EAC) for this project. Is the project performing better or worse than planned?

**[2 Marks]**

- Use the schedule performance index (SPI) to estimate how long it will take to finish this project.

**[2 Marks]**

**[Total 20 Marks]**