

**THE OPEN UNIVERSITY OF SRI LANKA**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**MASTER OF TECHNOLOGY IN INDUSTRIAL ENGINEERING – LEVEL 7**  
**FINAL EXAMINATION – 2007/2008**  
**MEX 7120 – PROJECT MANAGEMENT**  
**DATE : 10 MAY 2008**  
**TIME : 0930 hrs – 1230 hrs**  
**DURATION: Three (03) hours**



021

**Answer any five (05) questions. All questions carry equal marks.**

1. Organization performing projects will usually divide each project into several project phases to provide better management control and appropriate links to the ongoing operation of the performing organization.
  - (a) Draw a representative project life cycle diagram and a milestone plan for a consumer electronic product development and describe the major activities briefly at each stage. (12 Marks)
  - (b) Draw a sample Work Breakdown Structure for the above project (08 Marks)
2.
  - (a) Explain the key difference between Functional Management and Project Management. (10 Marks)
  - (b) Discuss the advantages and disadvantages of the matrix organizational structure. (10 Marks)
3.
  - (a) What are the areas that you should consider in conducting a feasibility study of building up a thermal power plant in Sri Lanka ? (05 Marks)
  - (b) Prepare a check list, concerning the important questions raised in a technical analysis of a project on setting up of an eco-friendly Hotel in a coastal belt in the down south area. (08 Marks)
  - (c) A contractor considers acquiring a piece of construction equipment that has an impact on the company's cash flow as shown below.

Year	Disbursement	Receipt
0	50,000	0
1	8,200	11,000
2	8,200	25,000
3	5,500	30,000
4	2,800	22,000

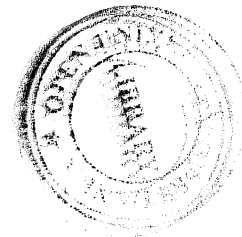
If the cost of capital is 10%, What is the net present value of the project ? (07 Marks)

4. (a) Identify four key major processes with regard to Project Risk Management and explain each process. Describe the benefits from Project Risk Management as a concept. (06 Marks)
- (b) List out tools and techniques that can be used at each of the above four processes and elaborate on the selected tools and techniques. (06 Marks)
- (c) Identify six major risk factors an investor should consider in submitting a proposal for privatized public railway transportation system in Sri Lanka. (08 Marks)
5. (a) "Individuals are well balanced human beings who work unselfishly together towards a common objective". Comment on the above statement using your Human Resource Management knowledge in the project management context. (10 Marks)
- (b) "People are different and have differing personalities which sometimes clash for no apparent reason" comment on the above statement in the context of management of conflicts in the Project Management Environment. (10 Marks)
6. Assume that you have been appointed as the project manager to organize an annual National Sporting event in December 2009.
- (i) Identify key stakeholders of the project and their needs and wants. (05 Marks)
- (ii) Prepare a project plan with minimum of 20 tasks to present to the organizing committee for preliminary discussion. (05 Marks)
- (iii) Develop six key indicators to measure the progress of the project over the time. (05 Marks)
- (iv) Prepare a Work Break Down Structure for the project. (05 Marks)
7. (a) Discuss how key concepts in Quality Management are used for a project of setting up a new Restaurant in the Colombo City. (10 Marks)
- (b) Discuss the importance of Project Communication Management in fulfilling competing needs and wants of different stakeholders of a project. (10 Marks)

8. ABC limited, a medium scale construction firm, has undertaken a project of constructing a water tank. The project is basically consisting of thirteen activities. Their beginning (I) and ending (J) node numbers identify the activities. Manpower having the labourers (L) and plumbers (P) relevant to the activities together with the durations are given below.

	Activity	Duration	Manpower
A	0-1	2	3L
B	1-2	4	4P,4L
C	1-3	4	8P
D	1-4	3	4L
E	2-8	4	12P
F	3-5	7	4L
G	3-8	2	8P
H	4-6	5	8P,4L
I	5-7	2	4P
J	6-9	5	4L
K	7-8	2	8L
L	8-9	3	8L
M	9-10	2	8L

- (a) Draw the project network and identify all paths on it. (04 Marks)
- (b) Find Earliest Starts (ES), Latest Start (LS), Earliest Finish (EF), Latest Finish (LF), Total Float (TF) and Free Float (FF) for each activity. (04 Marks)
- (c) Find out the critical path(s) of the project, and mark them on the network diagram. (04 Marks)
- (d) Prepare a resource accumulation task from the project. (04 Marks)
- (e) Draw the demand curves for the utilization of labourers and plumbers for the entire project ? (04 Marks)



ALL RIGHTS RESERVED