Name :	Citeran
Roll No. :	An Annual VY Envelope 2nd Excelored
Invigilator's Signature :	

## CS/M.Tech(IEM)/SEM-1/IEM-105B/2009-10 2009

## **PROJECT MANAGEMENT & TECHNOLOGY**

*Time Allotted* : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable.

Answer any *five* questions.  $5 \times 14 = 70$ 

- 1. Discus the essential characteristics of a project. Briefly explain what you understand by project life-cycle and state its various components. What role does the project manager play to deliver projects successfully. 4 + 6 + 4
- a) What is essentially the difference between simple bar and modified bar charts ? State the advantages and disadvantages of each.
  - b) What is the advantage of network diagrams over bar charts ? Explain with an example Fulkerson's rule of numbering of events in an "Activity-on-Arrow" network diagram.
- 3. a) Explain the importance of project planning in project management. 6

920276

[ Turn over

CS/M.Tech(IEM)/SEM-1/IEM-105B/2009-10



b) Based on the following information, draw the network diagram showing the inter-relations between the various activities of the project. 8

4. The following table gives data on normal time and cost, and crash time and cost for a project :

Indirect cost is Rs. 50 per week. Draw the network and identify the circuit path. What are the normal project duration and associated cost ? Crash the relevant events systematically and determine the optimal project completion time and cost. 14

920276

- CS/M.Tech(IEM)/SEM-1/IEM-105B/2009-10
- 5. a) Elucidate the importance of WBS in the execution of a project. 5
  - b) Propose a few methods to reduce project life-cycle cost. 9
- 6. a) *I* propose to make an initial investment of Rs. 1,20,00,000 for a particular project *A*. After 4 years, *I* expect to have an inflow of Rs. 75,00,000 every year for 3 years. There is another alternative proposal *B* for investment. The same initial investment will fetch me Rs.2,20,00,000 at the end of 6 years. Assuming a discounting factor of 10%, use the NPV method to decide which proposal is better. 7
  - b) What are the various issues that are looked into during the fesibility study of a project ? 7
- 7. The following time estimates and relations of various activities of a project are given.

Draw the network and indicate the critical path. What is the expected length and variance of the critical path? What is the probability that the length of the critical path does not exceed 36 weeks? 14

920276

[ Turn over

## CS/M.Tech(IEM)/SEM-1/IEM-105B/2009-10

- 8. Write short notes on any *two* of the following :
  - a) Line of balance
  - b) Project audit
  - c) Resource levelling
  - d) Technical and commercial bids.

