B - 402

Seat No.	

Total No. of Pages : 3

M.E. (Civil) (Construction and Management) (Semester - I) Examination, April - 2016
PROJECT EVALUATION AND FINANCING
Sub. Code : 34319

Day and Date : Monday, 25 - 04 - 2016 **Total Marks : 100**

Time : 10.30 a.m. to 01.30 p.m.

Instructions :
1) **Attempt any three questions from each section.**
2) **Figures to the right indicate full marks.**
3) **Make suitable assumptions wherever necessary and mention them clearly.**

SECTION - I

Q1) a) Explain the concept of inflation. How it affects economic appraisal of projects? **[8]**

b) You can buy a machine for Rs. 1,00,000 that will produce a net income, after operating expenses, of Rs. 10,000 per year. If you plan to keep the machine for four years, what must be the resale value at the end of four years to justify the investment? You must make a 12% annual return on your investment. **[8]**

Q2) a) List various criteria available for financial appraisal of projects. What factors govern the selection of a particular criterion for financial appraisal of construction projects? **[8]**

b) There is a requirement of standby electric power source at construction site. First equipment alternative A involves an initial cost of Rs.7,20,000, a 9 year useful life and annual expenses of Rs.25,000 and a salvage value of Rs.80,000 at the end of useful life. Second alternative equipment B has an initial cost of Rs.9,00,000, a 12 year useful life, annual expenses of Rs.21,000 and a resale value of Rs. 1,30,000 at the end of 12 years. The current interest rate is 10% per year. Which alternative is preferred? **[8]**

Q3) a) Discuss the suitability of probabilistic and nonprobabilistic methods of risk analysis with reference to construction management. **[8]**

P.T.O.

b) A bridge is to be constructed as part of a new highway. Engineers have determined that traffic density on the new road will justify a two-lane bridge at the present time. Because of the uncertainty regarding future use of the road, the time at which extra two lanes will be required is currently being studied. The estimated probabilities of having to widen the bridge to four lanes at various times in the future are as follows : **[8]**

Widen bridge in	Probability
3 years	0.1
4 years	0.2
5 years	0.3
6 years	0.4

The two-lane bridge will cost Rs.200 lakhs and the four lane bridge, if built at one time will cost Rs350 lakhs. The cost of widening a two lane bridge is will be an extra Rs200 lakhs plus Rs25lakhs for every year that construction is delayed. If money can earn 12% per year, what would you recommend?

Q4) a) Outline the procedure of estimating MARR required for financial appraisal of projects. **[6]**

b) Define capitalized cost. How it is calculated? **[6]**

c) What are the advantages of using fuzzy logic in risk analysis? **[6]**

SECTION -II

Q5) a) What factors influence the selection of source of finance for construction projects? **[8]**

b) Define the term 'equity debit ratio'. For a given project, what factors govern the value of this factor? **[8]**

Q6) a) What is the role of accounting systems in proper management of construction projects? **[8]**

b) How the process of standard budgeting influence the cost control of projects? **[8]**

Q7) a) What is the relevance of joint ventures in development of infrastructure projects? **[8]**

b) Explain any one model of PPP along with it's advantages and limitations. **[8]**

Q8) a) Differentiate between debentures and loans. **[6]**

b) Explain any one method of depreciation suitable to apply for construction machinery. **[6]**

c) Under what circumstances ECB can be used in construction as a source of finance? **[6]**