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Fifth Semester B.E. Degree Examination, June/July 2015
Engineering Economics

Time: 3 hrs.

Max. Marks: 100

- Note: 1. Answer any FIVE full questions, selecting atleast TWO questions from each part.**
2. Use of discrete interest factors table is allowed.

PART – A

- 1
 - a. Discuss the role of engineers in decision making. (08 Marks)
 - b. Enumerate the differences between strategy and tactic with suitable example. (06 Marks)
 - c. Explain the law of returns. (06 Marks)

- 2
 - a. Explain the conditions for present worth comparisons. (08 Marks)
 - b. An automobile company is evaluating three machines for possible use in its company. (only one machine will be purchased). Data associated with these machines are as follows :

	Machine A	Machine B	Machine C
First cost Rs	55,000	58,000	53,000
Operation and maintenance cost Rs	3,000	4,500	4,000
Expected income Rs	40,000	44,000	38,000
Estimated salvage value Rs	4,000	6,000	4,000

Assuming a technological life of 5 yrs and a desired interest rate of 12%, which machine seems to be preferable, assuming all other factors are equal? Use a net present worth for evaluation. (12 Marks)

- 3
 - a. Briefly explain the different types of asset lives. (08 Marks)
 - b. An electric utility company is looking at two alternatives for its manufacturing equipment. One is to subcontract to an independent maintenance company. The sub contractors bid calls for Rs 98,000 the first year with additional costs of Rs. 8,000 per year for subsequent years. The utility company is considering buying equipment with a first cost of Rs. 22,00,000 and annual operating expenses of Rs. 65,000/- per year. The equipment is expected to have salvage value of Rs. 25,000/- at the end of its useful life of 5 year. Using an interest rate of 12% evaluate the alternatives on an EAC basis. (12 Marks)

- 4
 - a. Explain briefly MARR and IRR. (06 Marks)
 - b. Explain the various causes of depreciation. (06 Marks)
 - c. A company can purchase a new central computer for Rs. 17,500 or can lease it for 3 years with annual payments of Rs. 8,400. Determine at what interest rate the leasing and purchasing costs would be equivalent, if lease payments were due at the end of each year. (08 Marks)

PART – B

- 5 a. With a neat sketch, explain the composition of costs traditionally used in accounting for the price of a manufacturing product. **(08 Marks)**
b. Explain in brief administrative over heads and selling over heads. **(04 Marks)**
c. The market price of lathe is Rs. 5,000/- and the discount allowed to the distributor is 20% of the market price. It is found that the selling expenses cost is $\frac{1}{4}$ th of the factory cost and if the material cost, labour cost and factory overhead charges are in the ratio of 1 : 4 : 2, what profit is made by the factory on each lathe, if the material cost is Rs. 400/-. Neglect other overheads. **(08 Marks)**
- 6 a. Explain in brief, the systems of book-keeping. **(08 Marks)**
b. With a suitable example, explain balance sheet and profit and loss account. **(12 Marks)**
- 7 a. What is the importance of ratio analysis? **(06 Marks)**
b. List and explain various types of financial ratios. **(14 Marks)**
- 8 a. Discuss the objective of profit --planning. **(06 Marks)**
b. Define a budget. List and explain the different types of budgets. **(14 Marks)**

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