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10ME71

Seventh Semester B.E. Degree Examination, Jan./Feb. 2021
Engineering Economy

Time: 3 hrs.

Max. Marks: 100

- Note: 1. Answer any FIVE full questions, selecting at least TWO questions from each part.
2. Use of interest factor tables is permitted.*

PART – A

- 1 a. Briefly explain Tactics and Strategy by giving example. (04 Marks)
b. Explain the following: (i) Law of Demand and Supply (ii) Law of Returns. (06 Marks)
c. A person takes a loan of Rs.10,000 from a bank at 12% per annum. Find the amount to be repaid at the end of 5 years if the interest is compounded (i) Yearly (ii) Half-yearly (iii) Quarterly (iv) Monthly (v) Continuously (10 Marks)
- 2 a. What are the conditions for present worth method of comparison of alternatives? (06 Marks)
b. Explain in brief the future worth method of comparison. (04 Marks)
c. A publication house offers a 3 years subscription for a down payment of Rs.1899 or a 5 years subscription for a down payment of Rs.2899, magazines worth Rs.1560 are dispatched every year. Compare the two offers at 10% per annum using present worth method. Use CFD for your analysis and choice. (10 Marks)
- 3 a. Define the following as applied to Asset life:
(i) Service life (ii) Accounting life (iii) Economic life (06 Marks)
b. Briefly explain equivalent annual cost by sinking fund method. (04 Marks)
c. Two types UPS units are under consideration for an important application. An economic comparison is to be made at 10% with the following cost estimates:

Particular	A	B
Purchase price	Rs.10,000	Rs.25,000
Annual O & M costs	Rs.2500	Rs.1200
Salvage value	0	Rs.5000
Service life	5 years	9 years

- (i) Determine the equivalent annual cost of the 2 UPS and suggest the best one.
(ii) Determine the salvage value for B type UPS such that it would have equivalent annual cost as that of A type UPS. (10 Marks)
- 4 a. Compare the following three investment proposal, all having life of 10 years. Initial cost and annual returns of the three proposals is given below:

Investment Proposal	Initial Cost	Annual Return
1	Rs.4 lakhs	Rs.1 lakh
2	Rs. 5.5 lakhs	Rs. 1.40 lakh
3	Rs. 6.25 lakhs	Rs.1.60 lakhs

- The firm's MARR is 15%. Suggest the best alternative using IRR. (10 Marks)
- b. A lathe costs Rs.1,50,000 has a estimated life of 10 years. It has a salvage value of Rs.10,000. Find the depreciation and book value at the end of 5th and 8th year using:
(i) Straight line method
(ii) Declining balance method
(iii) Sum of the years digits method (10 Marks)



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PART – B

- 5 a. Define estimating and costing. (04 Marks)
b. What are the various elements of cost that are to be considered to arrive at the selling price of a product? (06 Marks)
c. A factory is producing 100 bolts and nuts per hour on a machine. Its material cost is Rs.375, labour cost is Rs.245 and direct expense is Rs.80. The factory on cost is 150% of the labour cost and office on cost is 30% of the factory cost. If the selling price of each bolt and nut is Rs.13, calculate whether the management is going in loss or gain and by what amount? (10 Marks)
- 6 a. Briefly explain the following:
(i) Journal and Ledger
(ii) Profit and Loss Account
(iii) Balance Sheet (08 Marks)
b. A company having certain reserves and surplus has following year end details:
Equity shares = Rs.2,00,000
Bank balance = Rs.10,000
Dividend payable = Rs. 72,000
Provision for tax = Rs.40,000
Preference shares = Rs.1,35,000
Land and building = Rs.2,00,000
Debtors = Rs.1,60,000
Bills payable = Rs.20,000
Plant and equipment = Rs.80,000
Bills receivable = Rs.20,000
Creditors = Rs.5,50,000
General reserves = Rs.40,000
Cash in hand = Rs.15,000
Stock = Rs.77,000
Prepare the balance sheet. (12 Marks)
- 7 a. Briefly explain the following:
(i) Liquidity ratios
(ii) Activity ratios
(iii) Profitability ratios
(iv) Leverage ratios (12 Marks)
b. What are the merits and demerits of financial ratios? (08 Marks)
- 8 Write short notes on:
a. Financial planning
b. Objectives of profit planning
c. Types of budgets
d. Benchmarking (20 Marks)

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