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10ME71

Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019
Engineering Economy

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1 a. Explain law of returns, giving reasons for increasing returns, constant returns and decreasing returns. (10 Marks)
- b. Find the future sum of Rs.10,000 after one year at an interest rate of 10% if the interest is compounded : annually, half yearly, quarterly and monthly. (10 Marks)
- 2 a. Initial investment, annual revenue and salvage value of two machines are 45,000 and 70,000, 15,000 and 20,000 ; 6,500 and 9000 respectively. Both have 7 years useful life. If nominal interest rate is 14%. Select the machine using present worth method. (10 Marks)
- b. Select the better alternative of the following if $i = 9.75\%$ compounded annually :

| Year | 0 (Rs.) | 1 (Rs.) | 2(Rs.) | 3(RS.) | 4(Rs.) |
|-------|-----------|----------|----------|----------|----------|
| Alt X | -2,50,000 | 1,00,000 | 1,00,000 | 1,00,000 | 1,00,000 |
| Alt Y | -3,00,000 | 1,40,000 | 1,10,000 | 90,000 | 1,00,000 |

(10 Marks)

- 3 a. For equivalent annual worth (EAW or AEW) comparison of alternatives having unequal lives, is it necessary to take LCM of their life? Why not? (10 Marks)
- b. The following alternatives can perform the same function. Rank their with $i = 12\%$.

| Alt | First | Life | Salvage | Annual |
|-----|---------|-------|-----------|----------|
| | cost Rs | years | value Rs. | cost Rs. |
| A | 6000 | 6 | 2000 | 800 |
| B | 3000 | 3 | 1000 | 1000 |
| C | 2000 | 3 | Nil | 1200 |

Use equivalent annual cost method.

(10 Marks)

- 4 a. Explain the terms : minimum acceptable return, internal rate return, external rate of return and depreciation. (10 Marks)
- b. For an asset whose initial cost is Rs.10,000 and salvage value at the eight year is 2000 determine the depreciation amount for each year. Also find book value for each year using straight line method of depreciation. (10 Marks)

PART – B

- 5 a. Explain the terms : direct material cost, direct labour cost, overheads, total cost. (10 Marks)
- b. The various cost components for production of 30,000 units per annum are given : direct materials Rs. 6/- per unit, direct labour Rs 5/- per unit, fixed over heads Rs. 60,000 variable over heads Rs.2.50 per unit. Find the total cost and total cost/unit. (10 Marks)

- 6 a. List the items that appear in a profit and loss account. Present them in a logical order, ending with net project. (10 Marks)
- b. The following details as on 31/3/2014 are available for XYZ Co. Prepare a balance sheet as on 31/3/2014
Fixed assets 58,125, Current Liabilities 45,050, Reserves and Surplus 47,550, Loans 25,180, Investments 2,635, Cash 6,555, Share Capital 45,075, Provision for Dividend 3,525, Secured Loans 25,075, Debtors 26,555, Unsecured Loans 27,550, Stocks 77,050, Provision for Taxation 275. (10 Marks)
- 7 a. List profitability ratios and explain any two. (10 Marks)
- b. List activity ratios and explain any two. (10 Marks)
- 8 a. For a budget to result in profit, what essentials are necessary? Explain any one of them. (10 Marks)
- b. What is bench marking? List seven steps in bench marking with brief description. (10 Marks)

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