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Question Paper Code : 21603

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Eighth Semester

Mechanical Engineering

MG 2451/MG 81/GE 1451/080120038 – ENGINEERING ECONOMICS AND COST ANALYSIS/ENGINEERING ECONOMICS AND FINANCE

(Common to Production Engineering)

(Regulation 2008)

(Common to PTMG 2451 – Engineering Economics and Cost Analysis for B.E. (Part-Time) Mechanical Engineering – Seventh Semester – Regulation 2009)

Time : Three hours

Maximum : 100 marks

Use of interest tables is permitted.

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define opportunity cost.
2. Define P/V ratio.
3. State any two uses of Value Engineering.
4. What is Time Value of Money?
5. What is Cost Dominated Cash Flow Diagram?
6. Define Rate of Return method.
7. What is meant by Economic Life of an Asset?
8. Explain Predictive maintenance.
9. What is Sinking Fund?
10. What is amortization?

PART B — (5 × 16 = 80 marks)

11. (a) Write on : Break Even Analysis, Engineering and Economic Efficiency, costs that go into the fixing of product cost. (16)

Or

- (b) (i) From the following information relating to Geetha Ltd., you are required to find out (12)

- (1) P/V ratio;
- (2) BEP;
- (3) Profit;
- (4) Margin of safety.

Total Fixed cost	Rs. 4,500
Total Variable cost	Rs. 7,500
Total Sales	Rs. 15,000

- (ii) Also calculate the volume of sales to earn profit of Rs. 6,000. (4)

12. (a) (i) Explain the criteria for make or buy decision and its approach. (10)
- (ii) Write the equation for Interest compounding of a capital (Yearly, half yearly and Quarterly compounding). (6)

Or

- (b) The management of a company finds that while the cost of making a component part is Rs. 10, the same is available in the market at Rs.9 with an assurance of continuous supply.

Give a suggestion whether to make or buy this part. Give also your views in case the supplier reduces the price from Rs. 9 to Rs.8. (16)

The cost information is as follows :

Particulars	Rs.
Material	3.50
Direct Labour	4.00
Other variable expenses	1.00
Fixed expenses	1.50
Total	10.00

13. (a) Explain the concept Cash flow and different methods of comparison of alternatives. List the merits and Limitation of each method if any.

Or

- (b) Calculate the Average rate of return for projects A and B from the following :

Project	A	B
Investment Rs.	20,000	30,000
Expected life	4 years	5 years

No salvage value.

Projected Net Income (after interest, depreciation and taxes)

Years	Project A Rs.	Project B Rs.
1	2,000	3,000
2	1,500	3,000
3	1,500	2,000
4	1,000	1,000
5	—	1,000
	<u>6,000</u>	<u>10,000</u>

14. (a) (i) What do you mean by Replacement and maintenance Analysis? State and explain different types of replacement. (12)
(ii) Explain the concept of Life Cycle Analysis cost. (4)

Or

- (b) (i) What are the objectives of plant maintenance? Explain different types of maintenance adopted on an industry. (10)
(ii) Explain concept of Challenger and Defender. (6)
15. (a) (i) What is functional Depreciation? (4)
(ii) A company purchased Machinery for Rs.1,00,000. Its installation costs amounted to Rs.10,000. Its estimated life is 5 years and the scrap value is Rs.5,000. Calculate the amount and rate of depreciation. (12)

Or

- (b) (i) What do you mean by depreciation? Explain any 4 methods with example. (10)
(ii) Write on : Inflation, Accelerated Depreciation. (6)