



USN

--	--	--	--	--	--	--	--	--	--

10ME71

Seventh Semester B.E. Degree Examination, July/August 2021

Engineering Economy

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions.

2. Use of discrete interest factor table may be permitted.

- 1 a. Write down the difference between the following:
 (i) Strategy and tactics
 (ii) Intuition and analysis (06 Marks)
- b. Briefly explain the problem solving process with a diagram. (08 Marks)
- c. If you deposit Rs.10,000 today, what equal amounts can you withdraw at the end of each quarter for the next 4 years, when the nominal interest rate is 10 percent?
 $(A/P, 2.5, 16) = 0.07660$. (06 Marks)
- 2 a. Briefly explain the conditions of present worth comparisons. (05 Marks)
- b. An investor can make three end of year payments of rupees Rs.1500, which are expected to generate receipts of Rs.1000 at the end of year 4 that will increase annually by Rs.250 for the following 4 years. If the invested can earn a rate of return of 10 percent on other 8 year investments, is this alternative attractive? (10 Marks)
- c. A 10 year corporate bond has a face value of Rs.5000 and a bond rate of 8 percent payable quarterly. A prospective buyer desires to earn nominal rate of 12 percent per annum. What purchase price would the buyer be willing to pay? (05 Marks)
- 3 a. Define the following terms:
 (i) Service life
 (ii) Accounting life
 (iii) Economic life (06 Marks)
- b. Two possible rates for laying a power line are under study. Data on the rates are as follows:
- | | Around Lake | Under Lake |
|-------------------|--------------|----------------|
| Length | 15 km | 5 km |
| First cost (E) | 1,50,000 km | 7,50,000 km |
| Useful life | 15 years | 15 years |
| Maintenance cost | 6000 km/year | 12,000 km/year |
| Salvage value | 90,000/km | 1,50,000/km |
| Yearly power loss | 15,000/km | 15,000/km |
- If the 15% interest rate is used. Should the power line can be routed around the lake or under the lake in annual equivalent cost method. (14 Marks)
- 4 a. Define depreciation. What are the causes of depreciation? (10 Marks)
- b. Explain the following briefly:
 (i) MARR
 (ii) IRR
 (iii) Tax concepts
 (iv) Corporate income tax (10 Marks)



10ME71

- 5 a. Explain, with a neat sketch (block diagram), how the selling price of a product is determined. **(06 Marks)**
- b. Explain the following:
- (i) Factory cost
 - (ii) Fixed overheads
 - (iii) Administrative overheads **(06 Marks)**
- c. A certain piece of work is produced by a firm in batches of 100. The direct material cost for 100 pieces is Rs.160 and the direct labour cost is Rs.200, factory overhead cost is 35% of that total material and labour cost. Overhead charges are 20% of the factory cost.
- (i) Calculate Prime cost, factory cost
 - (ii) If the management wants to make a profit of 10% on the gross cost, determine the selling price of each article. **(08 Marks)**
- 6 a. What are the sources of finance and financial information? **(10 Marks)**
- b. Explain with suitable examples of profit and loss statement and balance sheet. **(10 Marks)**
- 7 a. List and explain various financial ratios. **(12 Marks)**
- b. Explain the limitations of ratio analysis. **(08 Marks)**
- 8 Write short notes on:
- a. Corporate income tax
 - b. Profit planning
 - c. Fixed budget
 - d. Cash-flow diagram **(20 Marks)**

* * * * *