10ME71

Seventh Semester B.E. Degree Examination, June/July 2019

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 discrete interest factor table is allowed.*
3. *Assume any missing data suitably.*

PART – A

1 a. Discuss why engineers have to study economics.   **(10 Marks)**
   b. Differentiate between tactics and strategies give an illustration.   **(10 Marks)**

2 a. State and explain any five conditions for present worth comparison.   **(10 Marks)**
   b. A precision machining component manufacturing company wants to expand its operation.
      For this purpose it has decided to add a CNC machine. One of the following two machine is
      to be selected based exclusively on future worth method of comparison:
      Machine useful life = 4 years
      Interest rate = 12%

	M_1	M_2
Initial cost (Rs.)	4,00,000	8,00,000
Salvage value at the end of life period (Rs.)	2,00,000	5,50,000
Annual maintenance cost (Rs.)	40,000	Nil

   Which of the above machine M_1, M_2 to be selected?   **(10 Marks)**

3 a. What is sinking fund? Explain its concept and philosophy.   **(10 Marks)**
   b. Jyothy Industries is considering to purchase a semi-automated welding machine for one of
      its export order, at an estimated initial cost of Rs.85,000. After a service life of 5 years its
      salvage value is estimated to be Rs.6000. Maintenance and operating costs are expected to
      be Rs.8000 for the first year of operation which increases by Rs.1500 per every year of
      additional use. Determine what annual saving must be obtained through the use of this
      equipment to make the purchase of this equipment economically justifiable. Consider
      interest rate of 10%.   **(10 Marks)**

4 a. What is depreciation? List and briefly explain the causes.   **(10 Marks)**
   b. A CNC machine costs Rs.30,00,000. Its service life is 8 years and its salvage value after 8
      years is Rs.2,50,000. Find:
      i)   Depreciation fund at the end of fifth year by fixed percentage method and declining
           balance method.
      ii) Book value of the machine after 4th year by declining balance method.
      iii) Book value after 6th year by declining balance method.   **(10 Marks)**

PART – B

5 a. What is selling price? How selling price for a component is fixed? Explain its components.
                                                                                           (10 Marks)
   b. Find the factory cost of a forged hammer made from solid cast iron press of circular cross
      section of 30 cm dia and 160 mm length. Time taken to forge is 150 min and labour cost is
      Rs.22/hour (rate). Factory overheads are 40% of direct labour cost, material cost of cast iron
      is Rs.12/kg. Density of cast iron = 6.8 gm/cm^3.   **(10 Marks)**

6   a. What is balance sheet? Explain its importance. Prepare an illustrative balance sheet showing different accounts (model balance sheet). **(10 Marks)**

   b. What are the sources of financial information? Briefly explain any of the two. **(10 Marks)**

7   a. List and explain different types of financial ratios, briefly. **(10 Marks)**

   b. What are the advantages and limitations of ratio analysis? **(10 Marks)**

8   a. What is profit planning? What are the objectives? **(10 Marks)**

   b. What are the types of budgets? Explain. **(10 Marks)**

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