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17ME51

## Fifth Semester B.E. Degree Examination, Aug./Sept.2020 Management and Engineering Economics

Time: 3 hrs.

Max. Marks: 100

**Note :** 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. Use of discrete interest factor table is permitted.

### Module-1

- 1 a. Define Management. Explain functions of Management. (06 Marks)
- b. Explain levels of Management. Specify responsibilities at each level. (06 Marks)
- c. Explain the contribution of Henri Fayol to the development of management thought. (08 Marks)

OR

- 2 a. Planning precedes all management functions. Elaborate. (04 Marks)
- b. Explain the steps in planning. (08 Marks)
- c. Describe various types of plans. (08 Marks)

### Module-2

- 3 a. Explain centralization of authority in an organisation. (04 Marks)
- b. Differentiate between : i) Line organization ii) Line and staff organisation. (08 Marks)
- c. Explain the process of selection and recruitment. (08 Marks)

OR

- 4 a. Write a note on importance of coordination. (04 Marks)
- b. Communication is an essential feature of any organization. Explain types of communication based on direction of flow. (08 Marks)
- c. Mention theories of motivation. Explain i) Maslow's hierarchy of needs theory . (08 Marks)  
ii) Adam's equity theory.

### Module-3

- 5 a. Engineering Economics is part of the curriculum in many universities for engineering courses. Give reasons. (04 Marks)
- b. Explain the significance of arithmetic gradient factor. (04 Marks)
- c. Differentiate between the following : i) Microeconomics and Macroeconomics. (12 Marks)  
ii) Price elasticity and income elasticity iii) Demand and Supply.

OR

- 6 a. State the law of diminishing returns. Where can it be applied? (04 Marks)
- b. Describe the procedural steps for drawing a cash flow diagram, with the aid of an example. (08 Marks)
- c. A man lends Rs 1500 at 8% simple interest for 3 years. At the end of this time he invests the entire amount (principal plus interest) at 7% compounded annually for 10 years. How much will he have at the end of 13 – year period? (08 Marks)

### Module-4

- 7 a. Explain Payback Comparison method. What are its deficiencies? (04 Marks)
- b. If you deposit Rs 25000 today, what equal amounts can you withdraw at the end of each quarter for the next four years, when the nominal interest rate is 10%? (06 Marks)



- c. A publication house offers a 3 year subscription for a down payment of Rs 1000 or a 5 years subscription for down payment of Rs 1250. Magazines worth Rs 520 are dispatched every year. Compare the two offers at 14% p.a. using present worth method. (10 Marks)

OR

- 8 a. Explain present worth comparison method involving assets having infinite lives. (10 Marks)  
b. A refining company entered into a contract for raw materials with an agreement to pay Rs 6,00,000 now and Rs 150,000 per year beginning at the end of 5<sup>th</sup> year. The contract was made for 10 years. At the end of 3<sup>rd</sup> year, because of unexpected profits, the company requested that it be allowed to make a lump – sum payment in advance for the rest of the contract. Both parties agreed that 7% compounded annually was a fair interest rate. What was the amount of the lump – sum? (10 Marks)

**Module-5**

- 9 a. Define Depreciation. Explain its causes. (06 Marks)  
b. Initial cost – Rs 150,000 ; Salvage value = Rs 10,000 ; Life = 10 years.  
Find the depreciation amount and book value in 5<sup>th</sup> and 8<sup>th</sup> year using i) Straight line method ii) Declining balance method iii) Sum of years digit method. (07 Marks)  
c. A company produces 500 units of a product per day. Direct materials involved is Rs 40,000 , Direct labour Rs 35,000 and Factory overheads Rs 10,000. If the profit is 15% of selling price and selling overheads are 30% of factory cost. Calculate selling price per unit. (07 Marks)

OR

- 10 a. Explain how selling price is established giving all components of cost. (06 Marks)  
b. A company purchased an equipment whose first cost is Rs 2,00,000 with an estimated life of 8 years. The estimated salvage value of the equipment is Rs 40,000 at the end of its life. Determine the depreciation charge and book value at the end of each year using SYD method. (08 Marks)  
c. An equipment with an initial cost of Rs 70,000 has a life of 5 years, with a salvage value of Rs 10,000. Determine the depreciation charge and book value at the end of 3<sup>rd</sup> year. Use Double declining balance method. (06 Marks)

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