



# CBCS SCHEME

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15ME51

## Fifth Semester B.E. Degree Examination, Feb./Mar.2022 Management & Engineering Economics

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. How do the required managerial skills differ in the organizational hierarchy? Explain with a block diagram. (06 Marks)  
b. Explain with a neat diagram, the systems approach to management process. (10 Marks)

OR

- 2 a. What are the different types of plans? Explain briefly any four. (10 Marks)  
b. Discuss the importance of decision making in an organization. (06 Marks)

### Module-2

- 3 a. What is departmentation? Explain a functional organization with a neat block diagram. (10 Marks)  
b. Differentiate between Authority and Power. (06 Marks)

OR

- 4 a. Explain Mc Clelland needs theory of Motivation. (08 Marks)  
b. Define communication. Discuss different forms of flow of communication. (08 Marks)

### Module-3

- 5 a. Explain the concept of problem solving with a neat diagram. (06 Marks)  
b. Enumerate differences between micro and macro economics. (06 Marks)  
c. State the law of demand and supply. (04 Marks)

OR

- 6 a. Derive a relationship to convert uniform series of payments (A) to compound amount (F) at the end of N Number of years. (08 Marks)  
b. A savings plan is proposed in the following way. An amount of Rs. 60000 deposited today, followed by deposits of Rs.50000 at the end of 3<sup>rd</sup> and 5<sup>th</sup> year. Later for next 5 years a deposit of Rs.40000 is made every year. What is the accumulated sum at the end of 10 years if  $i = 8\%$ . (08 Marks)

### Module-4

- 7 a. An Engineer starts a business with a investment of Rs. 15,00,000. It is expected to generate Rs.5,00,000 per year income and costs Rs.1,50,000 towards maintenance annually. His net savings are expected to generate 10% if deposited in a Bank. He expects to get a lumpsum at the end of 15 years by depositing his annual savings. Further, he wants to enjoy an annual earnings by depositing the lumpsum for next 10 years. What is the annual earning? (08 Marks)  
b. Find the compound amount of Rs 5000/- at 6% for 4, 8 and 12 years and compare the result does doubling the time doubles the amount of interest earned. (08 Marks)

OR

- 8 a. Machine A has an initial investment of Rs.2,00,000 with 6 years of life. Its operating costs are Rs.20000 per year and earns Rs.50000 per year. Its salvage value is Rs.50000. Machine B has an initial cost of Rs.3,00,000 with 9 years of useful life at the end of which it will have Rs.75,000. Its annual operating costs are Rs.25,000 and earnings are Rs.60000 per year. If the company uses MARR of 12%, using F.W approach choose the best alternative. (08 Marks)
- b. Define the following terms :
- (i) IRR (ii) MARR (iii) Asset life (iv) Cost of capital (08 Marks)

**Module-5**

- 9 a. Explain the process of estimation of selling price of a component. (08 Marks)
- b. Calculate the unit and cost of the following component if density is 7.1 gm/cc and rate is Rs.500/- per kg. All dimensions are in mm. (08 Marks)

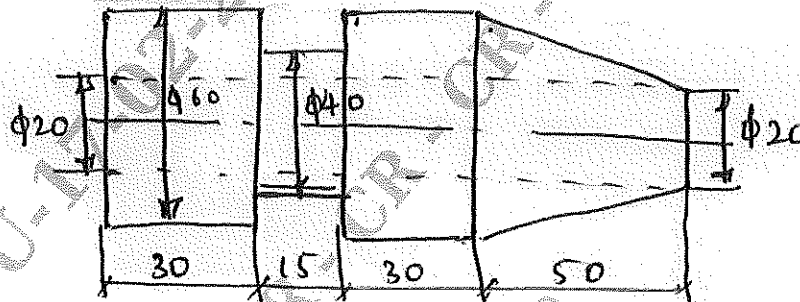


Fig. Q9 (b)

OR

- 10 a. A new machine costs Rs.1,60,000 and a useful life of 10 years. It has a resale value of Rs.15,000 but Rs.5,000 is required to be spent to dismantle it. Calculate
- (i) The total depreciation amount at the end of 5 years using straight line method.
- (ii) The book value of the asset at the end of 6 years using SOYD method.
- (iii) The book value of the asset at the end of 4 years using declining balance method. (10 Marks)
- b. Write short notes on Indian Income tax system. (06 Marks)

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