

# CBCS SCHEME



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18ME51

## Fifth Semester B.E. Degree Examination, Feb./Mar. 2022 Management and 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 compound interest factors handbook tables is permitted.

### Module-1

- 1 a. Define management and explain the function to be performed by managers to achieve the set goals. (10 Marks)  
b. Define planning and briefly discuss the steps involved in planning. (10 Marks)

OR

- 2 a. Discuss the functional areas of management. (12 Marks)  
b. Explain the steps involved in rotational decision making. (08 Marks)

### Module-2

- 3 a. Write a note on principle of organization. (12 Marks)  
b. Explain Marsha's need hierarchy theory in brief. (08 Marks)

OR

- 4 a. Explain the terms MBO and MBE. (10 Marks)  
b. What is controlling and explain the steps in control process. (10 Marks)

### Module-3

- 5 a. Explain the law of demand and law of supply with suitable examples. (08 Marks)  
b. Explain the 72 rule of present worth. (04 Marks)  
c. A man wishes to have a future sum of Rs.50 lakhs for his daughters education for 10 years from now. What is the single payment that he should deposit so that he gets the desired amount after 10 years. The bank offers 12% rate of interest, compounded annually. (08 Marks)

OR

- 6 a. Define engineering economics and briefly explain microeconomics and macroeconomics. (10 Marks)  
b. A man is planning to build his house. He plans to invest Rs.40,000 per year for the next 10 years. The bank offers 12% interest rate compounded annually. Find the maturity value of his account after 10 years. (10 Marks)

### Module-4

- 7 a. Explain future worth method of comparison. (06 Marks)  
b. Explain IRR (Internal Rate of Return) and MARR (Minimum Acceptable rate of Return). (06 Marks)  
c. Following are the estimates of two alternate investment made in two different machines in an industry. Find out which machine has the fastest payback period.

	Particulars	Machine A	Machine B
1	Initial investment	30,000	42,000
2	Annual receipts	20,000	26,000
3	Annual expenditures	5,500	7,000
4	Economics life	4 years	4 years

(08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg. 42+8 = 50, will be treated as malpractice.

OR

- 8 a. Rs.10 crores was generated by the management of an engineering college for the construction of its new mechanical science block. Annual maintenance of the block is estimated to be Rs.10 lakh. In addition Rs.12 lakh will be needed every 10 years for painting and Hoyer repairs. If the budget granted has to take care of perpetual maintenance, how much of the amount can be used for initial construction costs? Deposited funds can earn 6% rate of interest compounded annually. Assume that taxes and inflation do not come into picture. (12 Marks)
- b. What are the various method of comparing the worthiness of engineering projects. Explain any one method. (08 Marks)

**Module-5**

- 9 a. What are the various components/causes of depreciation? (05 Marks)
- b. Explain how selling price is fixed for a product and show all the components of cost. (05 Marks)
- c. An investment of Rs.8,000 is made by Suresh for his manually operated pen machine. Its salvage value after 5 years is Rs.1000. Find straight line depreciation expense? Find the book value at the end for each year and also. Find the depreciation fund collected at the end of 4<sup>th</sup> year. (10 Marks)

OR

- 10 a. Differentiate between estimation and testing. (05 Marks)
- b. Explain briefly the objectives of costing. (05 Marks)
- c. A cost iron component, as shown in figure below is to be manufactured. Estimate the selling price per piece from the following data :
- Density of material = 7.2gm/cc  
 Cost of molten metal = Rs. 20/kg  
 Process scrap = 20% of net weight  
 Scrap return value = Rs.6/kg  
 Administrative overheads = Rs.30/hour  
 Sales overheads = 20% of factory cost  
 Profit = 20% of factory cost  
 Other expenditures are as follow :

Operation	Time/piece minutes	Labour cost per hour is Rs.	Shot overheads Rs./hour
Moulding and paring	15	20	60
Shot blasting	5	10	40
Fettling and inspections	6	10	40

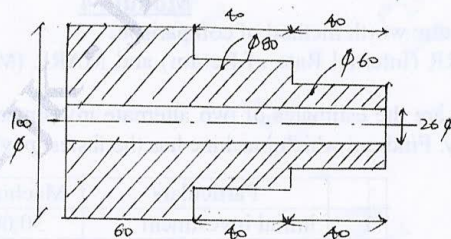


Fig.Q10(c) All dimensions are in 'mm'

(10 Marks)

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