

# CBCS SCHEME

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18ME51

## Fifth Semester B.E. Degree Examination, Jan./Feb. 2021 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 Interest factor table is permitted.

### Module-1

- 1 a. Define meaning of management and explain characteristics of management. (06 Marks)  
b. Discuss different levels of management. (06 Marks)  
c. Briefly explain the early management approaches. (08 Marks)

OR

- 2 a. Discuss the importance and purpose of planning process. (10 Marks)  
b. With the help of block diagram, explain hierarchy of plans. (10 Marks)  
c.

### Module-2

- 3 a. List and explain in brief the principles of organization. (14 Marks)  
b. Discuss the need of committees in an organization with classification. (06 Marks)

OR

- 4 a. Explain in brief different leadership styles. (10 Marks)  
b. Explain the essentials of a good sound control system. (10 Marks)

### Module-3

- 5 a. Engineers are now expected not only to generate novel technological solutions but also to make skillful financial analysis of the effects of implementation. Discuss. (06 Marks)  
b. State and explain the law of supply is demand mentioning the factors influencing it. (08 Marks)  
c. Find the effective rate of interest for an actual rate of interest of 10% when compounded:  
(i) yearly (ii) biannually (iii) quarterly  
(iv) monthly (v) daily (vi) hourly (06 Marks)

OR

- 6 a. Explain time value of money assuming amount of your choice and draw the cash flow diagram. (08 Marks)  
b. A 45 year old person is planning for his retired life. He plans to direct Rs.30,000 from his bonus as investment every year for the next 15 years. The bank gives 12% interest rate compounded annually. Find the maturity value of his account when he is 60 years. (04 Marks)  
c. A person wants to gift a car to his daughter when she would turn 18 years, six years from now. He decides to put away money in her name during her next six birthdays. He wants to deposit Rs.25,000 in the year to go on increasing it by Rs.5000 every year for the next 6 years. If he estimates that a car would cost Rs. 5 lakhs when he wants to buy one, how much more money should be added to the maturity amount that he receives from the bank if it assumed at 11.5% compounded annually. (08 Marks)

**Module-4**

- 7 a. Two holiday cottages are under consideration. Compare the present worth of the cost of 24 year service, at an interest rate of 5% when neither cottage has a realizable cottage value.

	Cottage 1	Cottage 2
First cost	Rs.4500	Rs.10,000
Estimate life	12 years	24 years
Annual maintenance cost	Rs.1000	Rs.720

(10 Marks)

- b. An investor can make three end of the year payments of Rs.15000 which are expected to generate receipts of Rs.10,000 at the end of the year 4 that will increase annually by Rs.2500 for the following 5 years. If the investor can earn a rate of return of 10% on the other 8 year investments in this alternative attractive? (10 Marks)

**OR**

- 8 a. Define the following terms: (i) MARR (ii) IRR (iii) ERR. What are the clues of IRR calculations? (10 Marks)
- b. 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. (10 Marks)

**Module-5**

- 9 a. List and explain five methods of depreciation. (10 Marks)
- b. Discuss the various causes of depreciation. (05 Marks)
- c. A high-tech bus was initially bought for Rs.50 lakhs. Its salvage value after 5 years of service would be 10 lakh. In its life time it can be driven for a distance of 10 lakhs kms in its 5<sup>th</sup> year of operation. If it has already traveled a total distance of 8 lakh kms, find the depreciation of the bus at the point. (05 Marks)

**OR**

- 10 a. Explain how selling price is determined for product with a block diagram. (06 Marks)
- b. Computers purchased by a public utility cost Rs.7000 each, past records indicate that they have useful life of 5 years, after which they will be disposed off, with no salvage value. The company currently has capital of 7%. Determine the following by using straight line method. (06 Marks)
- Depreciation charges per year
  - Depreciation reserve accumulated at the end of 3<sup>rd</sup> year.
  - Book value at the end of third year.
- c. The original assets of the company are Rs.5,80,000. The life of the plant is 9 years. If the scrap value of the time is expected to be 80,000. Calculate the depreciation at the end of each year by sum of the year method. (08 Marks)

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