USN | | | | | | | | | | **18MR51**

Fifth Semester B.E. Degree Examination, July/August 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 Interest tables is permitted.

Module-1

1   a. Define Management. Explain the various levels of management.   **(08 Marks)**
    b. Describe the steps in planning process.   **(08 Marks)**
    c. "Management is a Science or Art" – Justify.   **(04 Marks)**

OR

2   a. List and explain the various characteristic and nature of management.   **(10 Marks)**
    b. What is planning? Explain the various types of organizational plans.   **(10 Marks)**

Module-2

3   a. List and explain any two main types of organization structure.   **(10 Marks)**
    b. With the aid of block diagram, explain Maslow's Hierarchy of needs theory. **(10 Marks)**

OR

4   a. What is Selection process and Recruitment? Discuss the various sources of recruitment.
                                                                                  (08 Marks)
    b. Discuss the steps involved in a control process. List the essential characteristics of a sound
        control process.   **(12 Marks)**

Module-3

5   a. State and explain the law of supply and demand mentioning the factors influencing it.
                                                                                  (08 Marks)
    b. An utility is purchased for an account of Rs. 17,500/- and it is expected to serve for four
        years. If the interest rates are 6% for simple interest case and 10% for compound interest
        case calculate the interest earned in both the cases and offer your comments. **(06 Marks)**
    c. What is cash flow diagram? Sketch and explain the CFD from a borrower's and Lender's
        point of view.   **(06 Marks)**

OR

6   a. With a neat sketch explain problem solving process.   **(08 Marks)**
    b. A person takes a loan of Rs. 10,000 from a bank of interest of 10%P.A. Find the amount if
        interest is compounded.
                 i) Annually   ii) Half yearly   iii) Quarterly   iv) Monthly. **(08 Marks)**
    c. A loan of Rs.5,000 is to be repaid in equal monthly installments over $2\frac{1}{2}$ years. The
        nominal interest rate is 6 percent. How much is each installment?   **(04 Marks)**

Module-4

7 a. Two models of machine perform the same function. Type 1 machine has a low initial cost of Rs. 9,500, relatively high operating costs of Rs.1900 per year more than that of type 2 machines, and a short life of 4 years. The more expensive type 2 machine costs Rs. 25,100 and can be kept in service economically for 8 years. The scrap value from either machine of its life will barely cover its removal cost. Compare the 2 machines by annual equivalent method with minimum rate of return 8%. **(10 Marks)**

   b. A farm house can be purchased for 90,000 and the expected resale value after 20 years is 60,000. If the annual rental income is Rs. 11,800 And expenses Rs.4,700 What will be the rate of return earned on this farm house. **(10 Marks)**

OR

8 a. An aircraft assembly fixture has a purchase price of Rs.9,00,000 and closed as a 5 year property. Use of fixture is expected to result in an annual before tax savings of Rs.3,00,000 for a period of 6 years, at the end of which time it will be obsolete and virtually worthless. Applying the appropriate accelerated schedule, determine :
   i) The before tax present worth of the investment at an interest rate of 40 percent
   ii) The after tax present worth of the investment with an effective tax rate of 40 percent and an interest rate of 20 percent. **(10 Marks)**

   b. Two motorcycles of brand 'P' and 'Q' are available on the following terms :
   i) Motorcycle 'P' – make a down payment of Rs.5,000 ad the Rs. 6,000 at the end of each year for 7 years
   ii) Motorcycle 'Q' – make a down payment of Rs.15,000 and no payment for the next 3 years. From end of the 4th year annual payments of Rs. 1,00,000 for the next 4 years. Select the best motor cycle based on future worth. **(10 Marks)**

Module-5

9 a. List and explain the components of product cost. **(06 Marks)**

   b. A small firm is producing 100 pins/day. The direct material cost is found to be Rs.160, direct labour cost is Rs. 200 and factory over heads chargeable are Rs. 250. If the selling on cost is 40% of factory cost, what must be the selling price of each pen to realize a profit of 14.6% of selling price? **(06 Marks)**

   c. A CNC machine cost Rs. 30,000 is estimated to serve for 8 years after which its salvage value is estimated to be Rs. 2,50,000. Find :
   i) Depreciation found at the end of the 5th year by fixed percentage method and declining balance method
   ii) Book value of the machine after 4th year and 6th year by declining balance method. **(08 Marks)**

OR

10 a. What is depreciation? List and explain the causes of depreciation. **(06 Marks)**

   b. Explain how selling price of components are fixed. **(06 Marks)**

   c. Computers purchased by a public utility cost Rs. 7,000 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 cost of capital of 7%. Determine the following by using straight line method.
   i) Depreciation at the end of each year
   ii) Depreciation reserve accumulated at the end of year 3
   iii) Book value of computer at the end of year 3. **(08 Marks**

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