USN | | | | | | | | | |

17ME51

Fifth Semester B.E. Degree Examination, Feb./Mar. 2022
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.	Discuss functional areas of management.	(07 Marks)
	b.	Explain various roles of manager.	(07 Marks)
	c.	Distinguish between administration and management.	(06 Marks)

OR

2	a.	Explain the planning premises.	(06 Marks)
	b.	Explain in brief standing plan and single use plan.	(06 Marks)
	c.	Discuss steps involved in decision making.	(08 Marks)

Module-2

3	a.	Explain principles of organization.	(08 Marks)
	b.	What do you mean by span of control? Explain the factors affecting span of control.	(06 Marks)
	c.	Discuss steps involved in delegation and elements of delegation.	(06 Marks)

OR

4	a.	What do you mean by leadership? Explain various styles of leadership.	(08 Marks)
	b.	Explain meaning and importance of communication.	(06 Marks)
	c.	Explain McGregor's Theory X and Theory Y.	(06 Marks)

Module-3

5	a.	Explain problem solving process in economics.	(07 Marks)
	b.	What is the significance of cash flow diagram? Sketch CFD for : (i) borrower's point of view (ii) lender's point of view.	(07 Marks)
	c.	Find the effective interest rate if rate of interest is 8% when compounded : (i) yearly (ii) biannually (iii) quarterly (iv) monthly (v) daily Compare the results.	(06 Marks)

OR

| 6	a.	Explain law of demand and supply with example.	(06 Marks)
	b.	Distinguish between micro economics and macro economics.	(06 Marks)
	c.	A person is planning for his retired life. He has 10 more years of service. He would like to deposit 20% of his salary, which is 4000/- in the first year and thereafter. He wishes to deposit with an annual increase of 500/- for the next 9 years with interest rate of 15%. Find the total amount at the end of 10th year of the above series.	(08 Marks)

Module-4

7 a. A company is planning to buy an inspection device (CMM) for Rs.4,50,000. The expected life of the device is 5 years, and the expected annual operating costs and taxes are Rs.6000 for the first year and with an added increase per year of Rs.1000 for 2 years to 5 years. Maintenance costs will be zero in the first 2 years because of warranty, but are expected to be Rs.10,000 in year 3, Rs.15000 in year 4 and Rs.20000 in year 5. What is the minimum desired annual economic benefit of the device, assuming that these benefits will just offset the annual cost? The company uses 10% interest rate. **(10 Marks)**

b. A stand by electric power generator was purchased 6 years ago for Rs.8000, at that time it was expected that the equipment would be used for 15 years and would have a salvage value of 10 percent of the first cost. The generator is no longer needed and is to be sold for Rs.2500. Using an interest rate of 15 percent, determine the difference between the anticipated and actual equivalent annual capital cost. **(10 Marks)**

OR

8 a. In 2004 a small apartment was purchased for Rs.2,00,000. Receipts from the rent have received Rs.30,200 a year; taxes, maintenance and repair costs have totalled Rs.8620 annually. The owner intends to hold the property until she retired in 2014. If that time property sells for Rs.2,00,000, what rate of return (RoR) will be obtained on the investment? **(10 Marks)**

b. Amjay company is currently renting a parking lot for employee and visitors use at an annual cost of Rs.9000, payable on the first of each year. The company has an opportunity to buy the lot for Rs.50,000. Maintenance on the property are expected to cost Rs.2,500 annually. Given that the property will be needed for 10 more years, determine what sales price must be obtained at the end of the period in order for Amjay to break even, when the interest rate is 12 percent. **(10 Marks)**

Module-5

9 a. How do you determine selling price of the product? Explain. **(10 Marks)**

b. Determine the weight and cost of following component shown in Fig.Q9(b). Take density of material 8.5 g/cc. Cost of each kg of material is Rs.100. **(10 Marks)**
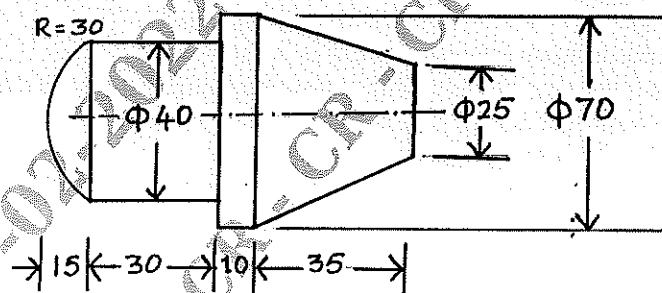
Note : All dimensions in mm
Fig.Q9(b)

OR

10 a. What are the causes of depreciation? Explain. **(10 Marks)**

b. An engineering college invests Rs.10,000 for its R & D in processing wear testing machine. The serviceable life of the machine is 4 years and its salvage value is Rs.1000. Determine depreciation and book value in each year using declining balance method and also find amount of depreciation collected at the end of second year. **(10 Marks)**

* * * * *