U.S.N.										

B.M.S.College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

June 2025 Semester End Main Examinations

Programme: B.E. **Semester: V**
Branch: Industrial Engineering and Management **Duration: 3 hrs.**
Course Code: 22IM5PCCEF **Max Marks: 100**
Course: Corporate Economics and Finance

Instructions:1.Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

		UNIT - I	*CO*	*PO*	**Marks**
1	a)	What is meant by engineering economics? What is the significance of its study for engineers.	*CO1*		**05**
	b)	A material testing laboratory has two alternatives for purchasing a compression testing machine which will be used for determining the compressive strength of different construction materials. The alternatives are from two different manufacturing companies. The cash flow details of the alternatives are as follows; **Alternative-1:** Initial purchase price = Rs.1000000, Annual operating cost = Rs.10000, Expected annual income to be generated from testing of different construction materials = Rs.175000, Expected salvage value = Rs.200000, Useful life = 10 years. **Alternative-2:** Initial purchase price = Rs.700000, Annual operating cost = Rs.15000, Expected annual income to be generated from testing of different construction materials = Rs.165000, Expected salvage value = Rs.250000, Useful life = 5 years. Using present worth method, find out the most economical alternative at the interest rate of 10% per year.	*CO2* *CO3*	*PO1* *PO2*	**15**
		OR			
2	a)	Brief on the conditions applicable for PW comparison	*CO1*		**05**
	b)	A construction firm has decided to purchase a dozer to be employed at a construction site. Two different companies manufacture the dozer that will fulfill the functional requirement of the construction firm. The construction firm will purchase the most economical one from one of these companies. The alternatives have different useful lives. The cash flow details of both alternatives are presented as follows; **Company-A Dozer:** Initial purchase cost = Rs.3050000, Annual operating cost Rs.40000 at end of 1st year and increasing by Rs.2000 in the subsequent years till the end of useful life Annual income = Rs.560000,	*CO2* *CO3*	*PO1* *PO2*	**15**

			Expected salvage value = Rs.1050000, Useful life = 6 years. **Company-B Dozer:** Initial purchase cost = Rs.4000000, Annual operating cost = Rs.55000, Annual revenue to be generated Rs.600000 at the end of 1^{st} year and increasing by Rs.5000 in the subsequent years till the end of useful life, Expected salvage value = Rs.1000000, Useful life = 12 years. Using present worth method, find out the most economical alternative at the interest rate of 7% per year.			
			UNIT - II			
	3	a)	Explain the structure of capital recovery factor using suitable example	*CO1*		**10**
		b)	A material supply contractor has two options (i.e. from two different manufacturing companies, Company-1 and Company-2) to purchase a tractor for supply of construction materials. The details of cash flow of the two options are given below; **Company-1 Tractor:** Initial purchase cost = Rs.2000000, Annual operating cost including labor and maintenance = Rs.50000, Cost of new set of tires to be replaced at the end of year ‘3', year ‘6'and year ‘9' = Rs.110000 each, Expected salvage value = Rs.520000, Useful life = 10 years. **Company-2 Tractor:** Initial purchase cost = Rs.2200000, Annual operating cost including labor and maintenance = Rs.27000, Cost of new set of tires to be replaced at the end of year ‘4' and year ‘8' = Rs.120000 each, Expected salvage value = Rs.700000, Useful life = 10 years. Determine which company tractor should selected on the basis of equivalent uniform annual worth at the interest rate of 12% per year.	*CO2* *CO3*	*PO1* *PO2*	**10**
			OR			
	4	a)	Define IRR, MARR and ERR	*CO1*		**05**
		b)	A firm has identified three mutually exclusive investment proposals whose details are given below. The life of all the three alternatives is estimated to be five years with negligible salvage value. The minimum attractive rate of return for the firm is 12%.	*CO2* *CO3*	*PO1* *PO2*	**15**

	Alternative		
	A1	*A2*	*A3*
Investment	Rs. 1,50,000	Rs. 2,10,000	Rs. 2,55,000
Annual net income	Rs. 45,570	Rs. 58,260	Rs. 69,000

Find the best alternative based on the rate of return method of comparison.

			UNIT - III			
	5	a)	A company has purchased an equipment whose first cost is Rs. 1,00,000 with an estimated life of eight years. The estimated salvage value of the equipment at the end of its lifetime is Rs. 20,000. Determine the depreciation charge and book value at the end of various years using the straight line method of depreciation.	*CO2*	*PO1*	**05**
		b)	The following table gives the operation cost, maintenance cost and salvage value at the end of every year of a machine whose purchase value is Rs. 20,000. Find the economic life of the machine assuming interest rate, i = 15%.	*CO2* *CO3*	*PO1* *PO2*	**15**

End of year (n)	Operation cost at the end of year (Rs.)	Maintenance cost at the end of year (Rs.)	Salvage value at the end of year (Rs.)
1	3,000	300	9,000
2	4,000	400	8,000
3	5,000	500	7,000
4	6,000	600	6,000
5	7,000	700	5,000
6	8,000	800	4,000
7	9,000	900	3,000
8	10,000	1,000	2,000
9	11,000	1,100	1,000
10	12,000	1,200	0

		OR			
6	a)	The initial cost of a piece of construction equipment is Rs.3500000. It has useful life of 10 years. The estimated salvage value of the equipment at the end of useful life is Rs.500000. Calculate the annual depreciation and book value of the construction equipment using straight line method and DDB method. (k=2/n).	*CO2, CO3, CO4*	*PO1, PO2*	**15**
	b)	What is meant by leasing? List the situations which are applicable for leasing than buying.	*CO1*		**05**
		UNIT - IV			
7	a)	Discuss about the Classification of Accounts with the golden rules.	*CO1*	*PO3*	**08**
	b)	Journalize the transactions as on a particular date Jan 1st: commenced business with cash Rs.5000/-, furniture Rs.2000/- and machinery Rs.5000/- Jan 2nd: paid into bank, Rs.2000/- Jan 3rd: purchased goods Rs.2000/- Jan 4th: purchased goods from Krishna Rs.3000/- Jan 5th: sold goods Rs.3000/- Jan 6th: goods returned to Krishna Rs.1000/- Jan 7th: sold goods to Rama Rs.2000/- Jan 8th: paid rent Rs.100/-, wages Rs.100/- and salaries Rs.500/-	*CO3*	*PO4*	**12**
		OR			
8	a)	Define accounting, list the steps and functions of accounting	*CO1*		**05**
	b)	Journalize the following transactions in the books of Nancy Ltd.	*CO2, CO3*	*PO1, PO2*	**15**

2003 March		*Rs. in lakhs*
1	Started business with Cash	4,500
1	Paid into bank	2,500
2	Goods purchased for Cash	1,500
3	Purchase of furniture and payment by cheque	500
5	Sold goods for cash	600
8	Sold goods to Rosy	400
10	Goods Purchased from Thomas	700
12	Goods Return to Thomas	100
15	Sold goods to Rahavan for cash	250
18	Cash received from Rosy Rs.396 & discount allowed to her Rs.4	
21	Withdraw from bank for private use	100
21	Withdraw from bank for use in the business	500
25	Paid telephone rent for one year	40
28	Cash paid to Rosy in full settlement of her account	594
30	Paid for Stationery	20
	Rent paid	100
	Salaries to Staff	250

			UNIT – V			
	9	a)	Make an assessment of comparative position of the firm after taking the following data, calculate the relevant ratio and comment on it.	*CO4*	*PO2*	**10**
		b)	Calculate the current assets of the company with following information Stock turnover = 5 times Stock at the end = Rs. 5000 more than stock at beginning Sales = Rs2,00,000 Gross profit = 20% of sales Current liability = Rs.60,000 Quick ratio =0.75	*CO3*	*PO2*	**10**
			OR			
	10	a)	What is meant by financial ratio analysis? Explain how a ratio analysis is required from the point of view of the creditors, shareholders, management and the government	*CO1*		**10**
		b)	Classify the financial Ratios on the basis of Balance Sheet. List the advantages and disadvantages of the same.	*CO1*		**10**

Table for 9 a):

Particular	Firm A	Firm B	Firm C
Average inventory	10,00,000	15,00,000	20,00,000
Sales	66,00,000	83,00,000	89,60,000
Cost of goods sold	60,00,000	75,00,000	80,00,000
Expense of management	5,00,000	7,60,000	10,00,000
Receivable (Debtors)	13,20,000	24,97,500	35,84,000

****