Bachelor of Power Engineering Examination, 2024

(2nd Year, 2nd Semester)

Engineering Economics and Costing

Time: Three Hours **Full Marks: 100**

Different parts of the same question should be answered together

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Answer only required number of questions. Any extra question answered shall be ignored.

1. Answer any two from (a), (b) and (c) in this block **2 x 15 = 30**

(a) Write short notes on any three of the following: **5 x 3**

(i) Cobb-Douglas production function; **(ii)** assumptions and characteristics of utility, **(iii)** price discrimination; **(iv)** role of time factor in determination of price; **(v)** indifference curves.

(b) Describe external economies of scale.. With the help of graphical presentations explain how the demand quantity and supply quantity of tea will change with the increase in coffee price. Summarise isoquants. **6 + 3 + 3 + 3**

(c) State equilibrium point under perfect competition with its conditions. . Which factors do impact market structure? What are the assumptions of monopolistic competition? Enumerate features of monopolistic completion. . **3 + 4 + 5 + 3**

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2. Answer any two from (a), (b) and (c) in this block **2 x 10 = 20**

(a) State impact of globalisation on financial sector in India. Enumerate advantages of globalisation. **6 + 4**

(b) Explain any five problems of foreign trade faced by developing countries. **10**

(b) Enumerate functions of WTO. Summarise agreements on trade in goods and dispute settlement under WTO. **3 + 7**

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3. Answer any two from (a), (b) and (c) in this block **2 x 15 = 30**

(a) From the following trial balance extracted from the books of Shani Co. as on 31.03.24. Prepare **(i)** Trading A/c, **(ii)** Profit & Loss A/c and **(iii)** year-end Balance Sheet. **5 + 5 + 5**

Trial Balance as on 31.03.24

Debit Balances	**Rs.**	**Credit Balances**	**Rs.**
Cash in hand	2,000	Capital	2,00,000
Machinery	60,000	Sales	2,56,800
Stock (on 01.04.23)	50,000	Sundry Creditors	42,000
Bills receivable	1,600	Bank overdraft	22,000
Sundry debtors	50,000	Return outwards	3,000
Wages	72,000	Discount received	1,800
Land	40,000	Bills payable	1,800
Carriage inwards	2,400		
Purchases	1,80,000		

Salaries	24,000	
Rent	4,000	
Postage	1,000	
Return inwards	3,200	
Drawings	10,000	
Furniture	18,000	
Interest	600	
Cash at bank	8,600	
	5,27,400	5,27,400

Stock as on 31.03.24 to Rs. 1, 00,000

(b) Nataraj is planning to start a new business. The estimated cash outlay and cash inflow pattern for this investment are given below:

	Year					
	0	1	2	3	4	5
Cash Flow (Rs.)	(100,000)	80,000	(20,000)	80,000	80,000	80,000

If the required rate of return is 10% per annum, evaluate & conclude whether the new business will be beneficial based on **(i)** NPV, **(ii)** IRR, methods. Show detailed calculations. You need to compute the exact IRR up to two decimal points, and also show detailed calculation including linear interpolation, if required.

5 + 10

(c) Make journal entries and ledger entries from following transactions of 'Killer Instinct' which produces specific parts of missiles. **5 + 10**

(i) On 02 /01/ 24 Priyanka invested Rs. 100 lakh for opening his own organisation, called 'Killer Instinct'.
(ii) On 10 /01 / 24, the organisation makes a purchase of long-term assets and equipment of Rs. 60 lakh on bank loan.
(iii) On 22 / 01 / 24, purchased inventories of Rs. 20 Lakh on credit
(iv) On 31 / 01 / 24, sold goods of Rs 25 lakh on credit.
(v) On 31 / 01 / 24, sold services of Rs. 5 lakh in cash

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4. Answer any one from (a) and (b) in this block **1 x 20 = 20**

(a) Prepare a cost sheet from the following particular in the book of Shiva Pvt. Ltd. **20**

Raw material purchased = Rs. 1, 20,000; Paid inward freight charges = Rs 10,000
Wages paid to labourers = Rs 35,000; Directly chargeable expenses = Rs 25,000
Factory on cost = 20% of prime cost; General & admin.expenses = 4% of factory cost
Selling and distribution expenses = 5% of production cost
Profit 20% on sales

	Opening stock (Rs.)	**Closing stock (Rs.)**
Raw material	15,000	20,000
Work in progress	17,500	24,000
Finished goods	20,000	27,500

(b) (i) From the following information, compute material price, material usage and material mixed variances:

3 + 3 + 4

	Standard			Actual		
	Quantity	Price	Total	Quantity	Price	Total
Material A	10	3	30	15	4	60
Material B	15	4	60	25	3	75
Material C	25	2	50	35	2	70

(ii) From the following data for the month of March, 2024, calculate overhead variances: **4 + 3 + 3**

Budgeted production for the month	=	150 units
Budgeted variable overheads	=	Rs 3,750 /-
Standard time for one unit	=	Rs. 10 hrs.
Actual production for the month	=	125 units
Actual variable overheads	=	Rs. 3,600/-
Actual hours worked	=	2250 hrs.