Bachelor of Power Engineering Examination, 2025

(2^{nd} Year, 2^{nd} 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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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) Expansion path; **(ii)** law of returns; **(iii)** price elasticity of demand; **(iv)** market skimming pricing.

(b) How 'Scarcity' impacts economic decision making? Describe in your own words importance of economics for engineers. Explain the concept of comparative advantage of countries from economic point of view. Describe in your own words 'cost plus pricing'. **3 + 3 + 3 + 6**

(c) Prove that marginal utility of money (MUm) is constant. What is a Giffin good? If the demand curve $P = 20 - 0.1Qd$ and the supply curve $P = 5 + 0.05Qs$, calculate market equilibrium price (P^*) and market equilibrium quantity (Q^*). Calculate the unit elastic point of the previous demand equation. **6 + 2 + 3 + 4**

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

(a) State merits and demerits of globalisation. Enumerate advantages of joint-stock companies. **7 + 3**

(b) Explain importance of GATT. Compare GATT with WTO. **6 + 4**

(c) Explain importance of international business. **10**

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

(a) From the following balances extracted from the books of Durga Co., prepare a trading account, a profit & loss account for the year ending 31st December, 2024, and a balance sheet as on 31st December, 2024:

Cash	Rs. 13,000	Sundry Debtors	Rs. 10,000
Bills receivables	Rs. 8,500	Opening Stock	Rs. 45,000
Building	Rs. 50,000	Furniture & Fittings	Rs. 10,000
Investment (temporary)	Rs. 5,000	Plant & Machinery	Rs. 15,500
Bills Payables	Rs. 9,000	Sundry Creditors	Rs. 20,000
Durga's Capital	Rs. 78,200	Durga's Drawings	Rs. 1,000

[Turn over

Sales	Rs. 1,00,000	Sales Discount	Rs.	500
Purchases	Rs. 30,000	Freight In	Rs.	1,000
Purchase Discount	Rs. 500	Sales Salary Expenses	Rs.	5,000
Advertising Expenses	Rs. 4,000	Misc. Sales Expenses	Rs.	500
Office Salary Expenses	Rs. 8,000	Misc.General Expenses	Rs.	1,000
Interest Income	Rs. 1,000	Interest Expenses	Rs.	800

Note: Stock as on 31st December, 2024 was valued at Rs. 10,000.

(b) Compare the following two mutually exclusive projects on the basis of NPV and IRR (with critical comments). Cash flows and salvage values are in crore of rupees. The minimum required annual return is 10%, **6 + 9**

	Project A				Project B			
Year	0	1	2	3	0	1	2	3
Cash Outflow	220				198			
Cash Inflow		91	130	105		87	110	84
Salvage Value				10				18

(c) Prepare journal entries, ledger entries and the respective month-end trial balance

i) On 1/1/25, Shani opened a company called Shani Forging Co. with a fund of Rs. 40 lakh.
ii) On 3/1/25, rented an office and workshop in cash for Rs. 5 Lakh per month.
iii) On 15/1/25, purchased machineries for Rs. 10 lakh on credit.
iv) On 25/1/25, made sales of Rs. 30 Lakh in cash..
v) On 31/1/25, paid wages & salaries of Rs. 1 lakh through NEFT

4 + 8 + 3

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

(a) Develop a cost sheet from the following particulars in the book of Saraswati Publishers (in '000 rupees): **20**

Raw materials purchased	= 1,20,000	Paid inward freight charges	= 10,000
Wages paid to labourers	= 30,000	Directly chargeable expenses	= 5,000
Salesman's salary	= 6,000	Office insurance	= 1,000
Cost of moulds	= 3,000	Factory manager's salary	= 1,000
Depreciation on machinery	= 800	Office salary	= 9,000
Directors' fees	= 2,000	Showroom expenses	= 1,200
Telephone charges	= 700	Depreciation on office building	= 800
Distribution centre's godown exp.	= 800	Market research expenses	= 600

Expenses of goods delivery van = 1,500
Sales = 2,10,000

	Opening stock	Closing stock
Raw materials	15,000	20,000
Work in progress	17,000	24,000
Finished goods	40,000	50,000

(b) The expense for budgeted production of 10,000 units in a factory are furnished below. Prepare a flexible budget for 60% capacity and compare it with 130% capacity. **8 + 8 + 4**

Particulars	**Per Unit Cost (Rs.)**
Material	70
Labour	25
Variable overheads	20
Fixed overheads (Rs. 1,00,000)	10
Variable expenses (direct)	5
Selling expenses (10% fixed)	13
Distribution expenses (20% fixed)	7
Administration expenses (Rs. 50,000)	5
Total cost per unit	155