

**Bachelor of Power Engineering Examination, 2023**  
(2<sup>nd</sup> Year, 2<sup>nd</sup> Semester)  
**Engineering Economics and Costing**

Time: Three Hours

Full Marks: 100

Different parts of the same question should be answered together

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) central problems of an economy; (ii) law of returns; (iii) price elasticity of demand; (iv) features of perfect competition; (v) objectives of 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 'market skimming pricing'. **3 + 3 + 3 + 6**
- (c) Prove that marginal utility of money (MUm) is constant. What is a Giffin good? If the demand curve  $P = 20 - 0.1Q_d$  and the supply curve  $P = 5 + 0.05Q_s$ , 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. Describe forms of merger. **6 + 4**
- (c) Explain any four features of Indian economy. **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 extracts of trial balance taken from the books of Lakshmi Co. on March 31, 2019, prepare a trading account, P&L account, and a year-end balance sheet. All amounts are in Rupees. **6 + 5 + 4**
- |                              |                          |                             |
|------------------------------|--------------------------|-----------------------------|
| Cash 13,000                  | Sundry debtors 10,000    | Bills receivable 8,500      |
| Opening stock 45,000         | Building 50,000          | Furniture & fittings 10,000 |
| Investment (Temporary) 5,000 | Plant & machinery 15,500 | Bills payable 9,000         |
| Sundry creditors 20,000      | Lakshmi's capital 78,200 | Lakshmi's drawings 1,000    |
| Sales 100,000                | Sales discount 400       | Purchases 30,000            |
| Freight inward 1,000         | Purchase discount 500    | Sales Salary expenses 5,000 |
| Advertising expenses 4,000   | Misc. Sales exp. 500     | Office salary exp. 8,000    |
| Misc. General exp. 1,000     | Interest income 1,000    | Interest expenses 800       |

Note: closing stock: Rs. 50,000 /-

[ Turn over

- (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

Year	Project A				Project B			
	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

- On 1/1/23, Mahendra opened a company called Mahendra Forging Co. with a fund of Rs. 50 lakh.
- On 3/1/23, rented an office and workshop in cash for Rs. 2 Lakh per month.
- On 15/1/23, purchased machineries for Rs. 10 lakh on credit.
- On 25/1/23, made sales of Rs. 35 Lakh on credit.
- On 31/1/23, paid wages & salaries of Rs. 1 lakh through NEFT

4 + 8 + 3

**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	12,000	20,000
Work in progress	17,500	24,000
Finished goods	40,000	50,500

- (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

<b>Particulars</b>	<b>Per Unit Cost (Rs.)</b>
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
<b>Total cost per unit</b>	<b>155</b>