

**Bachelor of Power Engineering Examination, 2019**(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) assumptions of equi-marginal utility; (iii) factors of production; (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 (MU<sub>m</sub>) 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**

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**

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 /-

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- (b) A mechanical device with an economical life of 5 years will cost Rs. 50,000 for purchase by Shiva Shakti Ltd. Maintenance will cost Rs. 2,000 per year starting from the 1<sup>st</sup> year. The device will generate revenues of Rs. 15,000 each year. There will be an up gradation cost of Rs 10,000 for the device at the end of 3<sup>rd</sup> year. Salvage value will be Rs 20,000.
- (i) If the required rate of return is 10% p.a., should the device be purchased based on IRR? Show in details IRR calculation on trial & error method. 9
- (ii) Given return requirement = 10% p.a., should the device be purchased on the basis of profitability index? 6
- (c) Make journal entries and respective ledger entries, and finally prepare a month-end trial balance from following transactions:
- (i) On 01 / 01 / 18 Durga opened a business with a capital of Rs. 120 Lakh.
- (ii) On 10 / 01 / 18 purchased long-term assets of Rs. 40 lakh on bank loan.
- (iii) On 20 / 01 / 18 purchased inventories of Rs. 40 Lakh paid in form of a bank draft which was prepared and handed over to the supplier on the same date.
- (iv) On 31 / 01 / 18 made credit sales of Rs. 20 Lakh. 4 + 8 + 3

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	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>