

Bachelor of Production Engineering Examination, 2019(3rd Year, 2nd Semester)**Production Economics and Financial Management**

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 questions. 3 x 5

(i) Law of returns; (ii) assumptions of law of equimarginal utility; (iii) least cost combination of inputs, (iv) law of supply and determinants of supply, (v) price elasticity of demand.

(b) Define 'Law of Variable Proportions'. What assumptions are related to this law? With the help of a graphical presentation explain various stages of this law. 2 + 4 + 9

(c) Prove that marginal utility of money (MU_m) 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 one from (a) and (b) in this block 1 x 15 = 15

(a) Write short notes on any three of the following: (i) features of perfect competition, (ii) objectives of pricing, (iii) market skimming pricing, (iv) advantages of cost-plus pricing, 3 x 5

(b) Illustrate pricing under monopoly in the short-run. What do you understand by monopolistic competition? Explain assumption of monopolistic competition. 7 + 2 + 6

3. Answer any one from (a), (b) and (c) in this block 1 x 25 = 25

(a) (i) 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. 7 + 6 + 6

| | | | |
|------------------------|---------|-----------------------|--------|
| 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 |

[Turn over

Note: closing stock was Rs. 50,000/- on March 31, 2019

(ii) From the final accounting statements that you have created from the above particulars, calculate and comment on current ratio and quick ratio. 3 + 3

(b)(i) Differentiate profit centres from cost centres. 5

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

| | | |
|---|--|--|
| Raw materials purchased = 1,50,000 | Paid freight charges = 10,000 | |
| Wages paid to labourers = 35,000 | Directly chargeable expenses = 30,000 | |
| Factory on cost = 20% of prime cost | General & admin. Expenses = 5% of factory cost | |
| Selling & distribution expenses = 10% of cost of production | | |
| Profit = 10% of sales | | |

| | Opening stock | Closing stock |
|------------------|---------------|---------------|
| Raw materials | 15,000 | 20,000 |
| Work in progress | 17,500 | 24,000 |
| Finished goods | 20,000 | 27,500 |

(c) (i) Why is ratio analysis not adequate on stand alone basis for decision making? 5

(ii) Make journal entries and respective ledger entries, and finally prepare a month-end trial balance from following transactions: 5 + 10 + 5

- On 01 /01/ 18 Durga opened a business with a capital of Rs. 120 Lakh.
- On 10 /01 / 18 purchased long-term assets of Rs. 40 lakh on bank loan.
- On 15 /01 / 18 purchased furniture of Rs. 5 lakh on bank loan.
- 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.
- On 31 / 01 / 18 made sales of Rs. 20 Lakh on credit.

4. Answer any one from (a) and (b) in this block 1 x 30 = 30

(a) (i) Summarise the internal factors for determining working capital requirements. Define key profitability ratios. 8 + 7

(ii) 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 1st 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 3rd year. Salvage value will be Rs 20,000. The management desires at least 10% p.a. return.

A) Should the device be purchased based on IRR? Show in details IRR calculation on trial & error method. 9

B) Should the machine be purchased on the basis of profitability index? 6

- (b) (i)** What are the assumptions of net income approach for valuation of firms? **3**
- (ii)** Show with the help of a diagram the impact on WACC under this approach. Explain. **3 + 3**
- (iii)** EBIT = Rs. 300,000. Cost of equity = 10%. Cost of debt = 6%. Calculate the weighted average cost of capital under NI approach when **(A)** debt capital = Rs. 800,000, **(B)** debt capital = Rs. 1,200,000, **(C)** debt capital = Rs. 400,000. **7 + 7 + 7**