

MORNING

15 MAY 2019

[Total No. of Pages: 02]

[Total No. of Questions: 09]

Uni. Roll No.

Program/ Course: B.Tech. (Sem. 1/2)

Name of Subject: Principles of Engg Economics and Management

Subject Code: HSMC-103

Paper ID: 15928

Max. Marks: 60

Time Allowed: 03 Hours

NOTE:

- 1) Parts A and B are compulsory
- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Use of scientific calculator is allowed.

[Marks: 02 each]

Part- A

Q1.

- a) Define (i) Profit (ii) Management.
- b) Two indifference curves never meet each other. Comment.
- c) Define elasticity of Demand and explain its types.
- d) Giffen's paradox is exception to law of demand, why?
- e) "Costing is an aid to management". Comment
- f) Calculate contribution from the following data:

| Particulars | Project A | Project B |
|-------------|-----------|-----------|
| Sales | Rs 50,000 | Rs 90000 |

Fixed Cost = Rs 10,000

Variable Cost Project A= Rs 10,000 Variable Cost Project B=Rs 45,000

Part- B

[Marks:04 each]

Q2. Calculate EOQ and number of orders from the following data:

Annual usage(units) = 4000

Carrying cost of inventory = Rs 2

Ordering cost = Rs 40

Q3. Draw the diagram and explain why cost curve is Dish shaped?

Q4. Differentiate between Management and Scientific Management.

Q5. Calculate Average Rate of Return on the Investment from the following data:

Initial investment = Rs 3,00,000. Scrap value of Rs 10,000. Expected life =5 years

Expected profit for 5 years are Rs 55,000;Rs 70,000; Rs 85,000; Rs 60,000; Rs 40,000 respectively.

Q6. Calculate the Works Cost from the following:

| Particulars | Amount(Rs) | Particulars | Amount(Rs) |
|--------------------------------|------------|-------------------|-------------------------------|
| Opening stock(raw material) | 10000 | Purchases | 185000 |
| Purchase return | 2000 | Direct labour | 30% of raw materials consumed |
| Carriage Inwards | 1000 | Direct expenses | 20% of Direct Labour |
| Closing stock (raw material) | 4000 | Factory overheads | 40% of works cost |
| Packing & distribution expense | 1560 | Carriage outwards | 4000 |

- Q7. "Break even analysis is an essential calculation in the profitability of business". Comment and explain with the help of diagram.

Part-C

[Marks:12 each]

- Q8. Explain internal and external economies and diseconomies of large scale production.

Or

Explain the Law of Variable proportion with the help of diagram. Also explain why it is applicable to agriculture very soon?

- Q9. (i) Determine payback period from the following data :

cash outlay = Rs 50,000, and cash inflows are Rs 20,000, Rs 15,000, Rs 12,000 and Rs 10,000 for 1st, 2nd, 3rd and 4th year respectively.

- (ii) Select the best project by Net Present Value method and give reason for the same (estimated life is 5 years)

Project A : Initial investment = Rs 3,50,000 , Scrap value = Rs 40,000

Project B : Initial investment = Rs 4,50,000 , Scrap value = Rs 55,000

| Cash inflows of project A In Rs | Cash inflows of project B | Net Present Value of Re.1 @ 10% discounting factor |
|------------------------------------|---------------------------|---|
| 1,00,000 | 1,45,000 | 0.909 |
| 1,10,000 | 1,75,000 | 0.826 |
| 1,20,000 | 1,45,000 | 0.751 |
| 90,000 | 1,25,000 | 0.683 |
| 65,000 | 95,000 | 0.621 |

Or

The following cost data is available from the books of XY Ltd for the year ending 31st Dec, 2016. Prepare Cost sheet showing cost and profit. Also calculate selling price per unit. Number of units Produced and sold are 250

| Particulars | Amount(Rs) | Particulars | Amount(Rs) |
|---------------------------------|------------------------------|--------------------------|------------|
| Stock of raw material (opening) | 10,000 | Director's Fee | 4,800 |
| Stock of raw material (closing) | 15,000 | Salesman salary | 7,500 |
| Purchases of raw material | 80,000 | Dep. on office furniture | 1,200 |
| Carriage inward | 2.5% of purchases | Advertisement | 4,000 |
| Direct expenses | 20% of direct wages | Office Stationery | 2,500 |
| Direct wages | 40% of raw material consumed | Factory light and power | 3,000 |
| Carriage outward | 3% of sales | Bank charges | 400 |
| Factory dep. | 3,500 | Office expenses | 13,000 |
| Repairs of machinery | 1,500 | Selling expenses | 5,000 |

Works manager's salary is 13% of prime cost and profits are 25% of sales
