

Seat No. : \_\_\_\_\_

# MD-209

May-2025

**MBA Full Time-Sem-2 (Regular/Repeater)**

**MBA in Public Policy Management (PPM)/MBA in Event Management (EM)/**

**MBA in Business Economics and Public Finance (BEPF)**

**Production and Operations Management (POM)**

**EPF-204/PPM-204/ EM-204**

**Time : 2:30 Hours]**

**[Max. Marks : 70**

1. What is Six Sigma ? Explain the DMAIC process. Describe any three quality control tools. How does Theory of Constraints and Line Balancing improve efficiency in production lines ? **14**

2. Discuss the different types of production systems and manufacturing strategies. How do these strategies contribute to improving productivity ? **14**

**OR**

2. Define Inventory. Explain ABC, VED, HML, SDE and FSN classification techniques. Use a small inventory dataset and classify it using ABC analysis. **14**

3. Discuss the factors affecting plant location decisions. Explain any two methods used for evaluating plant location alternatives. **14**

**OR**

3. What is plant layout ? Explain the different types of plant layout with examples. Why is an ideal layout important in operations management ? **14**

4. A manufacturing company requires 24,000 units of a component annually. The purchase price per unit is ₹ 40. The ordering cost is ₹ 300 per order and the carrying cost is 20% per annum. **14**

(a) Find the Economic Order Quantity (EOQ).

(b) The supplier offers a 10% discount for a minimum order quantity of 4,000 units. Should the firm accept the discount ?

**OR**

4. A company is considering six alternative locations for a new plant. The annual operating costs and intangible factors for these locations are given below. 14

**Economic Factors (Annual Operating Costs in INR) :**

Factors	A	B	C	D	E	F
Labour	2,50,000	2,20,000	2,80,000	2,00,000	1,80,000	2,50,000
Transportation Cost	30,000	25,000	22,000	35,000	40,000	28,000
Local Taxes	35,000	40,000	45,000	32,000	30,000	38,000
Cost of Power	50,000	60,000	55,000	45,000	60,000	55,000
Other Costs	40,000	30,000	35,000	50,000	55,000	48,000

**Intangible Factors (Rating: 1 = Poor to 5 = Excellent) :**

Factor	A	B	C	D	E	F
Community Attitude	5	3	4	3	5	4
Labour Availability	4	5	3	5	2	4
Quality of Transportation	3	2	5	2	3	4
Quality of Life	2	3	4	5	5	2
Availability of Skilled Workers	5	4	3	5	2	3
Expansion potential	4	3	4	5	3	4

- (a) Calculate the total annual operating cost for each location.
- (b) Considering both the economic and intangible factors, recommend the most suitable plant location and justify your answer.
5. Differentiate between MRP, MRP-II, and ERP. Discuss the purchasing process, including types of purchases, RFx. 14