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**Eighth Semester B.E. Degree Examination, Jan./Feb. 2021**  
**Operations Management**

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

**PART – A**

- 1 a. Define operation management. Explain the classification of production system. (10 Marks)
- b. Define productivity. Discuss the factors affecting productivity. (10 Marks)
- 2 a. Explain the Decision making process. (10 Marks)
- b. Discuss the characteristics of operations decision with examples. (10 Marks)
- 3 a. Shipments (in tons) of welded tube by an aluminum producer are shown in Table Q3(a)

Year	1	2	3	4	5	6	7	8	9	10	11
Tons	2	3	6	10	8	7	12	14	14	18	19

Table Q3(a)

- i) Graph the data, and comment on the relationship
- ii) Compute a 3-years moving average, plot it as a dotted line, and use it to forecast shipments in year 12.
- iii) Using a weight of 3 for the most recent data, 2 for the next, and 1 for the oldest, forecast shipment in year 12. (10 Marks)
- b. Explain the steps in forecasting process. (10 Marks)
- 4 a. Distinguish between design capacity and system capacity. (06 Marks)
- b. A metal processing firm wishes to install enough automatic molders to produce 2,50,000 good casting per years. The molding operation takes 1.5 minutes per casting, but its output is typically about 3 percent defective. How many molders will be required if each one is available for 2,000 hours (of capacity) per year? (06 Marks)
- c. Explain the generalized procedure for making a location decision. (08 Marks)

**PART – B**

- 5 a. What do you mean by aggregate planning? List and explain various pure strategies. (10 Marks)
- b. What do you mean by Master Production Schedule? What are the steps involved in master scheduling process? Explain. (10 Marks)
- 6 a. What are the reasons for holding inventory? Explain. (08 Marks)
- b. What are the assumptions underlying the basic EOQ model? Mention them. (04 Marks)
- c. A company requires 16,000 units of raw material costing Rs 2 per unit. The cost of placing an order is Rs 45 and the carrying costs are 10% per year per unit of the average inventory. Determine :
  - i) the economic order quantity
  - ii) cycle time
  - iii) total variable cost of managing the inventory. (08 Marks)
- 7 a. Explain MRP system Inputs and outputs. (10 Marks)
- b. What are the potential benefits from MRP? Explain (10 Marks)
- 8 a. Explain the supply chain activities in brief. (10 Marks)
- b. Discuss the various reasons for the make – or – buy decisions. (10 Marks)

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