



**MBA DEGREE EXAMINATIONS: NOV /DEC 2024**

(Regulation 2024)

First Semester

**MBA - LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

P24MBE0109: Supply Chains and Operations Management

**COURSE LEARNING OUTCOMES**

**CO1:** Identify supply chain and logistics functions for manufacturing and service sectors.

**CO2:** Evaluate various cost and efficiency frontiers involved with supply chain and logistics.

**CO3:** Analyze supply chain performance measures in all drivers and metrics and lean tools.

**CO4:** Formulate various project management tools.

**Time: Three Hours**

**Maximum Marks: 100**

**PART A (4Q x 5 Marks = 20 Marks) Answer Any Four Questions Only**

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|----|---|-------------|-------------------|
| 1. | Outline the functional scope of Logistics and Supply Chains.  | CO1         | [K <sub>2</sub> ] |
| 2. | Explain Design Capacity – Operating Capacity – Actual Capacity of an industry firm.                                   | CO2,<br>CO4 | [K <sub>2</sub> ] |
| 3. | i) List four critical Metrics of Sustainability contributes to Green Supply Chain for existing or new project set-up. | CO3         | [K <sub>1</sub> ] |
|    | ii) Analyze SCOR in three/four sentences for the new business set-up.   | CO4         | [K <sub>4</sub> ] |
| 4. | i) List top five inventory management techniques followed in the industrial scenario.                                 | CO3         | [K <sub>1</sub> ] |
|    | ii) Compare in one sentence <i>each</i> : “Stock-Out” and “Excess-Stock”  | CO3         | [K <sub>4</sub> ] |
| 5. | Compare Lean and Agile Supply Chains for existing set-up OR a new Supply Chain Project                                | CO3,<br>CO4 | [K <sub>2</sub> ] |

**PART B (4Q x 15 Marks = 60 Marks)**

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|-------------|----|--|------------|--|
| 6.          | a) | Evaluate Product Layout-Process Layout – Fixed Position Layout. Apply one industry set-up example each.  | CO3<br>CO4 | [K <sub>5</sub> ]<br>[K <sub>3</sub> ] |
| <b>(OR)</b> |    |  |            |  |
| 6.          | b) | Analyze and Construct Critical Supply Chain Drivers for a Manufacturing firm with a Product Layout throughout the end-to-end Supply Chain Process citing relevant industry examples. | CO1<br>CO4 | [K <sub>4</sub> ]<br>[K <sub>6</sub> ] |

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|----|----|---|-------------------|----------------------|
| 7. | a) | Distinguish between Dedicated Warehouse Vs Shared Warehouse.<br>Summarize the value proposition of Shared Warehousing Solutions.<br>Evaluate Amazon Warehousing Strategies. | CO3<br>CO3<br>CO3 | [K4]<br>[K2]<br>[K5] |
|----|----|---|-------------------|----------------------|

**(OR)**

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|----|----|--|-------------|------|
| 7. | b) | Explain your understanding of BEQ and portray with a plotted graphical structure (graph should show: Total Cost -Fixed Cost-Variable cost-BEP-P&L) | CO2,<br>CO3 | [K5] |
|----|----|--|-------------|------|

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| 8. | a) | Analyze in detail DMAIC and DMADV phases of Six Sigma. | CO2,<br>CO3 | [K4] |
|----|----|--|-------------|------|

**(OR)**

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|----|----|---|-----|------|
| 8. | b) | Develop Supply Chain Efficiency and Responsiveness frontier. Portray trade-off between Supply Chain Efficiency and Responsiveness through a graphical representation. | CO2 | [K3] |
|----|----|---|-----|------|

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|----|----|---|-------------|------|
| 9. | a) | Analyze how Industries are classified as national economy drivers and for your carrier plan mappings. | CO1,<br>CO4 | [K4] |
|----|----|---|-------------|------|

**(OR)**

- |    |    |  |            |              |
|----|----|--|------------|--------------|
| 9. | b) | Explain Cross Docking (CD) in detail and analyze how CD contributes to improve industrial Supply Chain Efficiency. | CO2<br>CO3 | [K5]<br>[K4] |
|----|----|--|------------|--------------|

**PART C (1Q x 20 Marks = 20 Marks) Compulsory Case Study**

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|-----|---|--------------------|--------------|
| 10. | An SSI (Small Scale Industry) Machine tool company procures packing boxes form one of the reputed vendors for Rs. 80/= Each. In their own manufacturing facilities, the Machine tool company has 30% of the operating space, which is un-utilized, hence the Manufacturing Supply Chain Head and Maturity Consultant: | CO2<br>CO3,<br>CO4 | [K4]<br>[K5] |
|-----|---|--------------------|--------------|
- i) Analyze the option of making it by themselves instead of procuring it from outside. If the boxes are to be manufactured internally, the Fixed Cost and Variable Cost would be Rs. 75000/= and Rs. 45 per box respectively.
  - ii) Evaluate whether the Machine tool company can make packing boxes or to continue buying from outside vendor if the annual requirement is 3000 nos.

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