

**B.E. PRODUCTION ENGINEERING FOURTH YEAR FIRST SEMESTER
SUPPLEMENTARY EXAMINATION – 2024**

Subject: LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Time: Three Hours

Full Marks: 100

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Answer Question No. 1 any Four from the rest

Instruction: Use appropriate schematic / flow diagrams and figures wherever possible / applicable

1. (a) How the Supply Chain Management & Logistics are related to each other? Explain. What are the supply chain stages? How do you observe the cycle-views with the supply chain stages? (5 + 5)
(b) Prepare & present a case study based on a company of your own choice to show the Push/Pull boundary and line of demarcation for efficiency & responsiveness. (10 + 10)
(c) What do you mean by circular economy? Explain with comparisons for Traditional Supply Chain, Sustainable Supply Chain and Circular Supply Chain. (10)
2. (a) What types of distribution networks are typically best suited for commodity items? Explain.
(b) What are the supply chain drivers? How do you establish supply chain decision making framework considering those drivers? (5 + 10)
3. (a) What is Bull-Whip effect in a supply chain? Mention the causes in detail. How can you tackle it?
(b) What is “Service Level”? Explain the effects of the increase and the decrease of service level. (10 + 5)
4. (a) Identify the major factors influencing network design decisions.
(b) Mention & Analyse the possible Design Options for Distribution Networks with suitable diagrams. (5 + 10)
5. (a) How does shipping with milk runs operate? Explain with up-stream and down-stream scenarios of a supply chain. Mention the operational parameters over a specified time horizon.
(b) How has IT enabled Customer Relationship Management (CRM)? (10 + 5)
6. (a) Elucidate Aggregate Planning Strategies in a supply chain.
(b) What is the role of IT in Aggregate Planning? Analyse. (10 + 5)
7. (a) How does e-business impact the distribution network. Mention the associated risks with the use of IT in supply chain and corresponding mitigation strategies.
(b) Elaborate the services provided by third party logistics (3PLs). (10 + 5)

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