PG – 729

III Semester M.B.A. (Day & Eve.) Examination, May/June 2025
(CBCS) (2022 – 23 and Onwards)
MANAGEMENT
Paper – 3.12.2 : Supply Chain Management

Time : 3 Hours Max. Marks : 70

SECTION – A

Answer **any five** out of the following questions. **Each** question carries **5** marks. **(5×5=25)**

1. Differentiate between micro and macroeconomic interfaces in the context of supply chains.
2. Discuss the concept of CPFR and its relevance in demand management.
3. Identify the challenges faced in balancing supply and demand using traditional forecasting.
4. Describe how transportation execution technologies support supply chain control.
5. Assess how shifting customer locations influence supply chain network design.
6. Summarize the principles of supply chain sustainability.
7. Explain the risks involved in managing international supply chain operations.

SECTION – B

Answer **any three** out of the following questions. **Each** question carries **10** marks. **(10×3=30)**

8. Compare and contrast various transportation modes in terms of cost, efficiency, and suitability.
9. Design a warehouse layout plan integrating material handling and distribution metrics.
10. Discuss how simulation and heuristic models can be used for supply chain network design.
11. Explain how global market development influences supply chain strategies of multinational corporations.

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SECTION – C

12. Case Study (**Compulsory** Question). **(15×1=15)**

Amul, India's largest dairy brand, handles the collection, processing and distribution of millions of liters of milk daily from over 3.6 million farmers. The biggest challenge it faced was ensuring freshness and quality throughout the supply chain, particularly during peak summers when spoilage risks were high. Traditional cold chains were insufficient, causing losses at both supplier and distributor levels.

To overcome this, Amul invested heavily in modernizing its cold chain infrastructure. This included the deployment of refrigerated trucks, temperature-controlled warehouses, and GPS-enabled route planning systems. Additionally, Amul digitized its supply chain with real-time temperature monitoring and product tracking at every stage. These improvements reduced product spoilage significantly.

Amul's SCM team also worked on balancing supply and demand. Using traditional forecasting combined with Sales and Operations Planning (S&OP), Amul ensured optimal production and distribution even during festivals and peak demand cycles. They implemented CPFR strategies with major retailers, enabling better shelf availability and minimized stockouts.

In terms of reverse logistics, Amul introduced packaging returns at retail outlets to promote sustainability. Customers could return glass bottles and insulated boxes, which were cleaned and reused-thus supporting environmental goals while reducing packaging costs.

As a cooperative, Amul's success is attributed to its efficient integration of farmers, production units and retailers through a robust SCM system. It has become a global case study in how cold chain logistics, technology and strategic planning can revolutionize a perishable goods supply chain.

Questions :

a) How did Amul use technology to optimize its cold chain operations and reduce losses ?

b) Discuss the demand forecasting and inventory strategies used by Amul to ensure product availability.

c) In what ways does Amul's reverse logistics model contribute to sustainability and cost efficiency ?