

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA - SEMESTER - III EXAMINATION - WINTER 2025

Subject Code: 4539297

Date: 22-12-2025

Subject Name: Logistics and Supply Chain Management

Time: 10:30 AM TO 01:30 PM

Total Marks: 70

Instructions

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. USE of SIMPLE calculators AND non-programmable scientific calculators are permitted.**

	Marks
Q.1	14
(a) Outsourcing (Make vs Buy)	
(b) Reverse Logistics	
(c) Vehicle Routing Problem	
(d) LSCM Audit	
(e) Optimization Models	
(f) Extended Enterprise	
(g) Agile Supply Chain	
Q.2 (a) Explain the role of 3PL and 4PL service providers in Logistics Management. How do they differ?	07
(b) Define logistics cost analysis. What are the components of total logistics cost?	07
OR	
(b) Explain the concept of milk run in logistics. What are its types and advantages?	07
Q.3 (a) Compare Optimization and Simulation models used in Network Design. When should each be used?	07
(b) What is a Facility Location Analysis? Discuss the factors influencing facility location decisions.	07
OR	
(a) Explain the difference between internal and external supply chain integration. Why is integration important?	07
(b) What is Network Design in Supply Chain Management? Explain its importance and key steps.	07
Q.4 (a) Define Sustainable Supply Chain Management. What strategies can companies adopt to ensure sustainability in their supply chains?	07

- (b) What are the key application tools used in Supply Chain Management? How do they enhance decision-making? 07

OR

- (a) Explain the concept of Agile Supply Chains. How do they differ from traditional supply chains? 07
- (b) Discuss the role of information and technology in achieving a Synchronous Supply Chain. 07

Q.5 Case Study: Optimizing Delivery Routes at FreshMart Foods

Background:

FreshMart Foods is a growing online grocery retailer operating in Ahmedabad, with same-day delivery as a core value proposition. To meet increasing demand, they operate 3 urban distribution centers (DCs). The company has noticed high logistics costs and customer complaints due to late deliveries.

After analysis, it was found that:

- Delivery routes were being manually planned each morning.
- Reverse logistics for damaged and returned goods was poorly coordinated.
- Their milk-run model often resulted in longer-than-expected delivery times.
- Inventory levels at the DCs were inconsistent, leading to stock-outs and overstocks.

The management wants to implement a tech-enabled routing solution, optimize inventory levels, and re-evaluate their reverse logistics practices.

- (a) What are the advantages and limitations of the milk-run delivery model in this scenario? 07
- (b) How can reverse logistics be improved in FreshMart's current supply chain setup? 07

OR

- (a) Suggest two technological tools that could enhance vehicle routing and scheduling. 07
- (b) Which supply chain performance measures should FreshMart track to evaluate improvements? 07
