Roll No……

GL BAJAJ Institute of Management & Research Greater Noida
FIND YOUR SPARK

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) –201306

POST GRADUATE DIPLOMA IN MANAGEMENT (2024-26)
END TERM EXAMINATION (TERM -IV)

Subject Name: **Supply chain Management** Time: **02.00 hrs**
Sub. Code: **PG41** Max Marks: **40**

Note: All questions are compulsory. Section A carries 12 marks: 6 questions of 2 marks each, Section B carries 18 marks having 3 questions (with internal choice question in each) of 6 marks each and Section C carries 10 marks one Case Study having 2 questions of 5 marks each.

Kindly write the all the course outcomes as per your TLEP in the box given below:

COs	Statement of Course Outcomes	Bloom's Taxonomy
CO-1	Understand theoretical and basic elements of supply chain management. Recognize and understand the practice of supply chain management systems to meet the customers' and stakeholders' expectations.	Remember-L-1, Understand-L-2
CO-2	To apply theoretical knowledge in the key decision-making areas like plant location, layout planning, Inventory and capacity planning, and project management for effectiveness in operational management.	Apply- L-3
CO-3	Develop the analysis to assess and solve supply chain-related problems effectively and efficiently.	Analyze-L-4, Create-L-6
CO-4	To analyze the supply chain data with mathematical models	Analyze-L-4
CO 5	To understand and justify the supply chain design process	Evaluate-L-5
CO 6	To understand and apply advanced Analytics for strategic decision-making and AI for improving overall business performance	Apply-L-3

SECTION - A

Attempt all questions. All questions are compulsory. 2×6 = 12 Marks

Questions	CO	Bloom's Level
Q. 1: (A). Define the Supply Chain Structure. **Q. 1: (B).** What are key Components of Supply Chain Strategy? **Q. 1: (C).** Define Bullwhip effect.	CO1	L1, L2
Q. 1: (D). Define the various types of inventory costs. **Q. 1: (E).** Define MRP. **Q. 1: (F).** Explain the Role of ERP in Supply Chain.	CO2	L1, L2

SECTION – B

All questions are compulsory (Each question has an internal choice. Attempt anyone (either A or B) from the internal choice) 6 x 3 = 18 Marks

Questions	CO	Bloom's Level
Q. 2: (A). A firm has an annual demand of D = 18,000 units. The ordering cost is S = ₹450 per order. The unit purchase cost is ₹60 and the annual carrying	CO2	L3

rate is 20% of unit cost. The supplier lead time is 10 days and the firm works 300 days per year. The firm decides to keep a safety stock of 300 units. Calculate the following: a) Economic Order Quantity (EOQ). b) Number of orders per year and average time between orders (in days). **Or** **Q. 2: (B).** Define JIT and its elements in detail. **Q. 3: (A).** Elaborate network design and its key component. **Or** **Q. 3: (B)**. Explain the four major steps of supply chain network design. **Q. 4: (A).** Define the various types of distribution network with examples. **Or** **Q. 4: (B).** Explain the various domains where analytics is used in Supply Chain Management (SCM). Give suitable examples.	CO3 CO4	L4 L3

SECTION - C

Read the case and answer the questions **5×02 = 10 Marks**

Questions	**CO**	**Bloom's Level**
Q. 5: Case Study: Transportation Challenges at FreshKart Foods Ltd. FreshKart Foods Ltd. is a mid-sized Indian FMCG company supplying ready-to-cook products to over 120 cities. The company operates two major warehouses—one in Nagpur (central hub) and another in Bengaluru (southern hub). Until recently, FreshKart used a simple road-transport model relying on a network of small regional transporters for moving goods to distributors. However, with sharp sales growth in online grocery platforms, the company has started receiving irregular, high-frequency orders from Tier-1 and Tier-2 cities. This has put significant pressure on FreshKart's transportation system. Over the last six months, the logistics team reported the following issues: • Vehicle availability fluctuations, especially from regional transporters during festive peaks. • Transit time variability between the Nagpur hub and eastern markets such as Kolkata and Ranchi. • Increased damage complaints from online retailers due to poor handling and stacked loading. • Rising transportation costs because multiple small consignments are shipped separately rather than consolidated. • Increasing customer demand for real-time shipment visibility, which FreshKart's current transport partners cannot provide. The senior management is now evaluating whether to redesign its transportation strategy. They are considering a mix of options: • Partnering with a national-level 3PL provider for long-haul movement. • Introducing cross-docking hubs near high-demand regions. • Implementing route optimization software for city-level distribution. • Creating a multi-modal transport plan combining road and rail for cost efficiency. FreshKart's SCM team must now recommend a transportation plan that balances cost, reliability, and responsiveness while supporting the company's growing omnichannel supply chain. **Questions:** **Q. 5: (A)**. Based on the challenges faced by FreshKart, which transportation-related performance metrics should the SCM team track to evaluate and improve	CO4	L4,L5

their transportation system? (Do **not** list the issues from the case; answer conceptually.) **Q. 5: (B).** If FreshKart decides to shift from regional transporters to a national 3PL provider, what strategic benefits and SCM improvements should they expect? Explain using broader supply chain concepts, not direct case information.		

Kindly fill the total marks allocated to each CO's in the table below:

COs	Question No.	Marks Allocated
CO1	Q1 A, B,C	6
CO2	Q1 D, E,F &Q.2	12
CO3	Q3	6
CO4	Q4,Q5	16

Blooms Taxonomy Levels given below for your ready reference:

L1= Remembering
L2= Understanding
L3= Apply
L4= Analyze
L5= Evaluate
L6= Create