GALGOTIAS UNIVERSITY

ADMISSION NUMBER

School of Business

Bachelor of Business Administration Logistics and Supply Chain Management
Semester End Examination - Jul 2024

Duration : 180 Minutes
Max Marks : 100

Sem III - D1UC301T - Introduction to Logistics Management

General Instructions
Answer to the specific question asked
Draw neat, labelled diagrams wherever necessary
Approved data hand books are allowed subject to verification by the Invigilator

1)	Identify the potential environmental impact of a warehouse's energy consumption and suggest sustainable practices.	K3(3)
2)	The concept of a functional agile supply chain represents a dynamic and adaptive approach to modern supply chain management. Analyze key dimensions that characterize a functional agile supply chain, emphasizing its ability to respond swiftly to changes in customer demands, market conditions, and emerging trends.	K4(4)
3)	Explain the risks that are associated with supply chain decisions, and how can they be mitigated?	K2(6)
4)	The hub-and-spoke model is a strategic approach in organizing transportation networks, optimizing connectivity and efficiency. Apply the hub-and-spoke model to air transportation, exploring how this model enhances connectivity, streamlines operations, and maximizes the efficiency of air travel.	K3(6)
5)	Identify the potential risks associated with cross-docking in a warehouse environment.	K3(6)
6)	The advent of Artificial Intelligence (AI) and Machine Learning (ML) has brought about a paradigm shift in supply chain management. Analyze the role of AI and ML in optimizing supply chain operations, offering insights into how these technologies enhance efficiency, decision-making, and overall performance.	K4(8)
7)	Safeexpress conducts an ABC analysis for its inventory to optimize management strategies. The data for selected items is as follows: Item A: Annual Sales = $200,000, Unit Cost = $20,000, Units Sold = 500 Item B: Annual Sales = $150,000, Unit Cost = $15,000, Units Sold = 1,000 Item C: Annual Sales = $100,000, Unit Cost = $10,000, Units Sold = 2,000 Item D: Annual Sales = $50,000, Unit Cost = $5,000, Units Sold = 4,000 Item E: Annual Sales = $30,000, Unit Cost = $3,000, Units Sold = 6,000 Question: 1)-Calculate the annual turnover for each item. 2)-Determine the percentage contribution of each item to the total annual sales. 3)-Apply ABC	K3(9)

analysis by categorizing these items into three groups (A, B, C) based on their annual turnover.

8) According to the Binny Rodger Equipment Company, the ordering cost is $9 per order and the carrying cost is 15%. At $4 per unit, 48,000 units are expected to be needed annually. a. Identify the most economical number of units to order? b. Identify how many orders should be placed in a year? c. How often should an order be placed? K3(9)

9) As a Logistics Analyst, your responsibility is to evaluate the effectiveness of a warehouse manager's layout decisions. This involves analysing the current layout, identifying any areas that may be causing delays or inefficiencies, and suggesting modifications to resolve these problems. Evaluate a comprehensive understanding of your assessment methodology and the rationale behind your proposed improvements. K5(10)

10) As a Logistics Manager, your company is considering the implementation of a third-party logistics (3PL) provider for certain aspects of the supply chain. Outline the key considerations and decision-making factors you would evaluate before selecting and integrating a 3PL into your logistics operations. Explain the rationale behind each consideration and how it contributes to the overall effectiveness of the supply chain. K4(12)

11) Over the past decade, Walmart has emerged as the world's largest and most influential retailer, attributing its success to effective supply chain management. The company's journey from a regional player to a global powerhouse is rooted in its commitment to providing customers with desired goods at competitive prices. Central to this strategy is the implementation of cross docking, a logistics technique that minimizes inventory holding time, thereby significantly reducing costs. Walmart strategically focuses on four key components in its supply chain strategy: vendor partnerships, cross docking and distribution management, technology, and integration. Strategic sourcing plays a crucial role in Walmart's success. The company establishes long-term partnerships with vendors, offering them the prospect of substantial and consistent purchases in exchange for the lowest possible prices. This ensures a stable supply chain and supports Walmart's commitment to low everyday pricing, a cornerstone of its competitive strategy. Walmart's distribution network is designed to support multiple retail stores through cross docking. This technique ensures that products move swiftly from suppliers to distribution centers (DCs) and then to stores, reducing transportation costs and enabling more frequent inventory replenishment. The focus on efficient network design aligns with Walmart's goal of maintaining a lean supply chain. The strategic fit between Walmart's competitive and supply chain strategies is evident in its emphasis on cost leadership. The company's supply chain integrates various elements, such as vendor partnerships, cross docking, and advanced technology, to achieve operational efficiency. This alignment allows Walmart to offer value to customers through affordability and accessibility. Information Technology (IT) serves as the backbone of Walmart's supply chain. Boasting the largest IT infrastructure among private K4(12)

companies globally, Walmart utilizes technology for accurate demand forecasting, inventory tracking, and the creation of efficient transportation routes. This investment in state-of-the-art technology underlines Walmart's commitment to leveraging IT as a strategic enabler for maintaining a competitive edge in the retail industry. Questions a. Explain various ways that a firm such as Wal-Mart benefits from good sourcing decisions? (6 marks) b. Wal-Mart designs its networks so that a DC supports several large retail stores. Explain how the company uses such a network to reduce transportation costs while replenishing inventories more frequently. (6 marks)

12) Read the above case study "Supply Chain Mastery: Walmart's Path to Global Retail Dominance" and answer following questions a. Justify with arguments to support the statement that Wal-Mart has achieved very good strategic fit between its competitive and supply chain strategies. (5 marks) b. Determine the role that IT plays in Walmart's Supply Chain. (10 marks) K5(15)