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| **C:\Users\ADMIN\Desktop\j.png** | **JAIPURIA INSTITUE OF MANAGEMENT, INDORE**  Post Graduate Diploma in Management (Batch 2023-25) |
| **Course Title: Supply Chain Management, (Course Code: 40522)**  **End-Term Examination, Term - IV (October 2024)** | |
| **Time Duration : 2 Hours Total Marks: 40** | |

***General Instructions*:**

1. *Answer the questions as directed. The break-up of the marks is given wherever necessary.*
2. *Marks against each question is indicated to its right.*
3. *Answer all the questions of a ‘Section/Question’ at one place in continuation.*
4. *Answers should be brief and to the point.*
5. *Do not write on the question paper except your roll number.*

**SECTION - A**

## Question 1 (Marks-30)

DHL, a leading global logistics company, has been actively investing in digital technologies and innovative supply chain strategies to meet the ever-evolving demands of e-commerce and international trade. With the rapid growth in online shopping, DHL has observed a 25% year-over-year increase in parcel volumes, resulting in a need for faster and more reliable delivery services. Currently, DHL operates 50 warehouses globally and has over 10,000 delivery vehicles in its fleet. However, the company faces challenges in optimizing its global supply chain to ensure efficiency, sustainability, and customer satisfaction. In recent months, DHL has experienced a 15% increase in last-mile delivery costs, and customer satisfaction scores have dropped by 8% due to delayed deliveries in urban areas.

DHL aims to leverage technology, improve coordination, and create a responsive supply chain network while navigating complexities such as fluctuating demand, last-mile delivery, and international regulations. Additionally, the company is under pressure to reduce its carbon footprint by 30% by the year 2025 as part of its commitment to sustainability.

* 1. As the head of supply chain strategy at DHL, how would you utilize supply chain coordination and collaboration frameworks to streamline operations across different regions? Discuss how the Bullwhip Effect can impact DHL's operations and how it can be mitigated through strategic coordination. Consider how a 20% reduction in inventory levels can affect DHL’s operational efficiency and customer satisfaction.
  2. To address the challenges of last-mile delivery in urban areas, DHL is exploring the use of new technologies and innovative delivery models. What strategies should DHL implement to optimize last-mile delivery while maintaining cost efficiency and customer satisfaction? Evaluate how the implementation of a fleet of electric delivery vehicles in urban areas could potentially reduce last-mile delivery costs by 10% and enhance customer satisfaction.
  3. DHL's global network involves complex decisions regarding the number and location of warehouses, inventory management, and transportation modes. How can DHL design its network to balance cost, responsiveness, and sustainability? Analyze the potential impact of reducing the number of warehouses by 20% on both delivery lead times and overall supply chain costs.

**SECTION - B**

## Question 2 . (Marks-10)

"EcoPack," a startup specializing in eco-friendly packaging solutions, has quickly gained attention for its commitment to a sustainable supply chain. The company sources biodegradable raw materials, employs renewable energy in its production processes, and uses green logistics for product distribution. EcoPack aims to minimize its environmental footprint while ensuring product quality and cost-effectiveness. However, as the company scales up its operations, it faces the challenge of maintaining its sustainability goals without compromising on profitability and efficiency. Recently, EcoPack experienced a 12% increase in production costs due to the use of renewable energy sources and eco-friendly materials, while its market demand has surged by 30%.

* 1. As a supply chain consultant for EcoPack, what strategies would you recommend to ensure that the company continues to maintain a sustainable supply chain as it grows?
  2. Discuss the potential trade-offs between sustainability and efficiency in supply chain operations. Consider how implementing a closed-loop supply chain could potentially reduce overall costs by 15% over the next two years while enhancing the company’s sustainability.