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**PRESIDENCY UNIVERSITY
BENGALURU**

**SCHOOL OF MANAGEMENT
MID TERM EXAMINATION - OCT 2023**

Semester : Semester V - 2021

Course Code : BBA2014

Course Name : Sem V - BBA2014 - Introduction to Supply Chain Management

Program : BBA

Date : 2-NOV-2023

Time : 11:30AM - 1:00PM

Max Marks : 50

Weightage : 25%

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.
- (iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS

(5 X 2 = 10M)

1. Compare the concept of a modern supply chain with more traditional distribution channels.
(CO1) [Knowledge]
2. Why is it important to consider uncertainty when evaluating supply chain design decisions?
(CO2) [Knowledge]
3. What is the underlying rationale that explains why firms should segment their purchase requirements? Brief the concept of procurement strategy portfolio.
(CO2) [Comprehension]
4. In what way do supply chain flows affect the success or failure of a firm such as Amazon? List two supply chain decisions that have a significant impact on supply chain profitability?
(CO1) [Comprehension]
5. Would you expect a brick-and-mortar retailer or an online retailer to have a higher asset turnover? Which supply chain drivers impact asset turnover?
(CO2) [Comprehension]

PART B

ANSWER ALL THE QUESTIONS

(2 X 10 = 20M)

6. Toyota Motor Corporation is Japan's top auto manufacturer and has experienced significant growth in global sales over the past two decades. A key issue facing Toyota is the design of its global production and distribution network. Part of Toyota's global strategy is to open factories in every market it serves. Toyota must decide what the production capability of each of the factories will be, as this has a significant impact on the desired distribution system. At one extreme, each plant can be equipped only for local production. At the other extreme, each plant is capable of supplying every market. Prior to 1996, Toyota used specialised local factories for each market. After the Asian financial crisis in 1996/97, Toyota redesigned its plant so that it could also export to markets that remain strong when the local market weakens. Toyota calls this strategy "Global Complementation".

Questions:

1. Should plants be able to produce for all markets or only specific contingency markets?
2. How should the markets be allocated to plants and how frequently should this allocation be revised?
(CO1) [Comprehension]

7. Cisco has outsourced almost all of its manufacturing. It does, however, have a sourcing strategy that varies by product type. For low-end products such as routers for home networks, Cisco aims for efficiency. These routers are produced and packed in China and shipped in bulk for sale in the United States. Cisco aims for the lowest cost manufacturing location and economies of scale in transportation because the targeted market segment values low cost. For high-end products, in contrast, Cisco outsources to contract manufacturers in the United States. These manufacturers are not low cost, but they are responsive and can serve the rapidly evolving needs of the high-end markets.

Questions :

1. Comment on the key sourcing decisions made by Cisco.
2. How could an industrial supplies distributor use information to increase its (Market) responsiveness?

(CO2) [Comprehension]

PART C

ANSWER THE FOLLOWING QUESTION

(1 X 20 = 20M)

8. **MOONCHEM Operations** : MoonChem, a manufacturer of specialty chemicals, had eight manufacturing plants and 40 distribution centers. The plants manufactured the base chemicals, and the distribution centers mixed them to produce hundreds of end products that fit customer specifications. In the specialty chemicals market, MoonChem decided to differentiate itself in the Midwest region by providing consignment inventory to its customers. The company wanted to take this strategy national if it proved effective. MoonChem kept the chemicals required by each customer in the Midwest region on consignment at the customer's sites. Customers used the chemicals as needed, and MoonChem managed replenishment to ensure availability. In most instances, consumption of chemicals by customers was stable. MoonChem owned the consignment inventories and was paid for the chemicals as they were used.

Distribution at MoonChem : MoonChem used Golden trucking, a full-truckload carrier, for all its shipments. Each truck had a capacity of 40,000 pounds, and Golden charged a fixed rate given the origin and destination, regardless of the quantity shipped on the truck. MoonChem sent full truckloads to each customer to replenish its consignment inventory.

John decided to take a careful look at his distribution operations. He focused on the State of Illinois, which was supplied from the Chicago distribution center. He broke up Illinois into a collection of zip codes that were contiguous. He restricted attention to the Peoria region, which was classified as zip code 615. A careful study of the Peoria region revealed 2 large customers, 6 medium-sized customers, and 12 small customers. The annual consumption at each type of customer was as Golden charged \$400 for each shipment from Chicago to Peoria, and MoonChem's policy was to send a full truckload to each customer as needed. Each pound of chemical in consignment cost MoonChem \$1, and MoonChem had a holding cost of 25 percent. John wanted to analyze different options for distribution available in the Peoria region to decide on the optimal distribution policy. The detailed study of the Peoria region would provide the blueprint for the distribution strategy that MoonChem planned to roll out nationally.

Questions : 1) what is the annual cost of MoonChem's strategy of sending full truckloads of each customer in the Peoria region to replenish consignment inventory?

2) Consider different delivery options and evaluate the cost of each. What delivery option do you recommend for MoonChem?

3) How does your recommendation impact consignment inventory for MoonChem ?

4) Identify managerial levers that reduce lot size and cycle inventory in a supply chain without increasing cost?

(CO1) [Comprehension]

