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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)

MBA (Integrated)

SEM: VII - THEORY EXAMINATION (2025 - 2026)

Subject: Supply Chain Management and Demand Forecasting

Time: 2.5 Hours

Max. Marks: 60

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of three Sections -A, B, & C. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

15

1. Attempt all parts:-

- 1-a. In a responsive supply chain, the transportation strategy primarily focuses on: 1
(CO1, K1)
- (a) Minimizing transportation costs regardless of speed
- (b) Using slower but reliable modes of transport
- (c) Relying on fast modes of transportation to ensure quick deliveries
- (d) Reducing inventory levels at the expense of delivery time
- 1-b. In a regression line equation $y=bx+a$, what does the y-intercept represent? (CO2, K1) 1
- (a) The value of y when $x=0$
- (b) The rate of change of y with respect to x
- (c) The total change in y over the data set
- (d) The maximum value of y in the data set
- 1-c. Lead time constraints in supply chain optimization are primarily concerned with: (CO3, K1) 1
- (a) Ensuring that customer demands are met
- (b) Aligning delivery lead times with service-level expectations
- (c) Adhering to environmental standards
- (d) Managing the availability of raw materials
- 1-d. One of the following is a disadvantage of in-house production? (CO4, K1) 1
- (a) High outsourcing costs
- (b) Dependency on third parties
- (c) Significant capital investment requirements

- (d) Lack of quality control
- 1-e. This product is best suited for a pull strategy: (CO5, K1) 1
- (a) Canned goods
- (b) Personalized gifts
- (c) Winter clothing
- (d) Packaged foods

2. Attempt all parts:-

- 2.a. Explain upstream supply chain. (CO1, K2) 2
- 2.b. Explain the importance of forecasting accuracy in supply chain management. (CO2, K2) 2
- 2.c. Explain the key differences between single-source and multi-source sourcing strategies in supply chain flow management. (CO3, K4) 2
- 2.d. Mention two benefits of outsourcing non-core activities in supply chain management. (CO4, K2) 2
- 2.e. Discuss why is timeliness crucial in a supply chain measurement system. (CO5, K2) 2

SECTION-B 15

3. Answer any three of the following:-

- 3-a. Explain the functions of logistics management. (CO1, K1) 5
- 3-b. Identify and explain the key challenges that businesses face in achieving accurate demand forecasting in supply chains.(CO2, K2) 5
- 3.c. Explain the factors involved in deciding the location and capacity of production plants.. How do centralized and decentralized facilities affect supply network optimization? (CO3, K3) 5
- 3.d. Explain the role of cost optimization in make-or-buy decisions.(CO4, K3) 5
- 3.e. With the help of real life example explain hybrid push-pull strategy in supply chain management and explain its significance.(CO5, K3) 5

SECTION-C 30

4. Answer any one of the following:-

- 4-a. Evaluate the role of the Toyota Production System (TPS) and Just-in-Time (JIT) in creating an efficient and lean supply chain. Explain the benefits of these approaches? (CO1, K5) 6
- 4-b. Describe the cycle view approach in understanding the processes carried out within a supply chain. (CO1, K2) 6

5. Answer any one of the following:-

- 5-a. Analyze the steps involved in developing a Demand Forecast and explain how each step contributes to improving forecast accuracy.(CO2, K4) 6
- 5-b. Compute 4 yearly moving averages from the following data. (CO2, K4) 6

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sales	706	720	1136	773	688	796	1216	838	763

6. Answer any one of the following:-

- 6-a. Describe the role of suppliers in a successful JIT system. How does geographical 6

- proximity and long-term relationships contribute to achieving JIT goals? (CO3, K2)
- 6-b. Describe the balance between Quick Response (QR) and Accurate Response (AR) in supply chain management. Analyze the need for organizations to strike a balance between speed and accuracy in meeting customer demands? (CO3, K4) 6
7. Answer any one of the following:-
- 7-a. Describe what are the potential risks associated with outsourcing, and how can companies mitigate them. (CO4, K2) 6
- 7-b. Elaborate with the help of examples how does a cost analysis influence the make or buy decision.(CO4, K3) 6
8. Answer any one of the following:-
- 8-a. Compare and contrast the push and pull strategies in supply chain management across various factors like inventory levels, demand management, and lead times.(CO5, K4) 6
- 8-b. Describe the five key areas of the SCOR model and their roles in supply chain management.(CO5, K2) 6

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