Printed Page:- 04 **Subject Code**:- **AMBALS0413**

Roll. No:

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

MBA

SEM: IV - THEORY EXAMINATION (2023 - 2024)

Subject: Supply Chain Analytics

Time: 3 Hours **Max. Marks: 100**

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.*

REG. MAY 2024

SECTION A **20**

1. Attempt all parts:-

1-a. In which stage of the supply chain involves forecasting customer demand.(CO1) 1

(a) Plan

(b) Source

(c) Make

(d) Deliver

1-b. The value chain cycle in a supply chain primarily focus on.(CO1) 1

(a) Reducing efficiency

(b) Increasing costs

(c) Adding value to the product or service

(d) Decreasing customer value

1-c. At what stage of the supply chain involves balancing inventory levels(CO2) 1

(a) Plan

(b) Source

(c) Make

(d) Inventory Management

1-d. Select which driver of supply chain involves seeking opportunities to reduce costs.(CO2) 1

(a) Customer Expectations

(b) Globalization

(c) Technology Advancements

(d) Cost Optimization

1-e. A negative correlation occur between two variables, when?(CO3) 1

(a) When they deviate in the same direction

(b) When they deviate in opposite directions

(c) When they have a linear relationship

(d) When they have a non-linear relationship

1-f. The factor which affects location decisions by firms due to its impact on long-term profitability is.(CO3) 1

(a) Availability of labor

(b) Proximity to markets

(c) Taxes

(d) Community considerations

1-g. In the context of Lean, value is defined by:(CO4) 1

(a) The management team

(b) The production department

(c) The end customer

(d) The marketing department

1-h. Out of given options, select which is considered a waste in Lean Manufacturing.(CO4) 1

(a) Efficient workflows

(b) Overproduction

(c) Value-adding activities

(d) Customer satisfaction

1-i. Cost efficiency through supplier relationships is achieved by:(CO5) 1

(a) Isolating supplier management

(b) Better pricing agreements and discounts

(c) Reducing communication with suppliers

REG. MAY 2024

(d) Increasing inventory levels

1-j. Select the option which fosters innovation in supply chain management.(CO5) 1

(a) Restricting communication with suppliers

(b) Collaborative partnerships with suppliers

(c) Focusing only on internal R&D

(d) Limiting supplier involvement in product development

2. Attempt all parts:-

2.a. Name two entities involved in the supply chain.(CO1) 2

2.b. Define nature of raw materials.(CO2) 2

2.c. Explain non feasible solution.(CO3) 2

2.d. Give the full form of the acronym 5S in lean management.(CO4) 2

2.e. Mention two key benefits of close supplier relationships for innovation and product development.(CO5) 2

SECTION B **30**

3. Answer any <u>five</u> of the following:-

3-a. Explain the role of technology advancements in enhancing supply chain efficiency.(CO1) 6

3-b. Explain how does sustainability influence supply chain practices? Provide examples.(CO1) 6

3-c. Outline the concept of Economic Order Quantity (EOQ) and explain how it helps in minimizing total inventory costs.(CO2) 6

3-d. Differentiate between the periodic review system and the continuous review system in inventory management. Mention one advantage and one disadvantage for each system.(CO2) 6

3.e. Discuss the main assumptions underlying the use of ANOVA. Also discuss the importance of these assumptions for the validity of ANOVA results.(CO3) 6

3.f. Describe the main tools used in Total Quality Management (TQM) and their purposes.(CO4) 6

3.g. Explain the concept of predictive maintenance and its advantages and disadvantages.(CO5) 6

SECTION C **50**

4. Answer any <u>one</u> of the following:-

4-a. A natural disaster has disrupted the supply chain of a major automobile manufacturer. Discuss the steps the company should take to manage this 10

REG MAY 2024

disruption and ensure business continuity.(CO1)

4-b. Analyze the importance of risk management in supply chain operations. Provide examples of potential risks and mitigation strategies.(CO1) 10

5. Answer any <u>one</u> of the following:-

5-a. Using a hypothetical scenario, illustrate how the Economic Order Quantity (EOQ) model helps in balancing ordering and holding costs. Include relevant calculations and assumptions in your answer.(CO2) 10

5-b. A pharmaceutical company needs to ensure strict compliance with regulatory requirements for tracking medications. Explain how batch tracking and serialization can assist in this context and discuss any challenges the company might face in implementing this system.(CO2) 10

6. Answer any <u>one</u> of the following:-

6-a. Discuss the importance of regression analysis in supply chain analytics.(CO3) 10

6-b. Discuss the role of analytics at various steps in supply chain.(CO3) 10

7. Answer any <u>one</u> of the following:-

7-a. A hospital wants to improve its patient care services. Describe how lean management and continuous improvement methods can be applied in this setting.(CO4) 10

7-b. Explain how the 5S methodology can lead to increased efficiency and employee satisfaction in a manufacturing setting.(CO4) 10

8. Answer any <u>one</u> of the following:-

8-a. Explain how real-time visibility and predictive analytics can transform supply chain management practices.(CO5) 10

8-b. Discuss how regulatory compliance and ethical practices in supplier relationships contribute to reputation management and long-term success.(CO5) 10

REG. MAY 2024