| Roll No. |  |  |  |  |  |  |  |  |  |  |  |  |
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# School of Engineering Mid - Term Examinations - November 2024

Semester: V Date: 8-11-2024

Course Name: Supply Chain ManagementMax Marks: 50Program: B. Tech – Mechanical EngineeringWeightage: 25%

## **Instructions:**

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

## Part A

| Ans | wer ALL the Questions. Each question carries 2 marks.                   | $5Q \times 2M = 10M$ |    |     |  |
|-----|---|----------------------|----|-----|--|
| 1.  | What is Supply Chain Surplus?   | 2 Marks              | L1 | CO1 |  |
| 2.  | What do understand by the term "Responsive Supply Chain"? Give a real   | 2 Marks              | L1 | CO1 |  |
|     | life example (company) for the same.                                    |                      |    |     |  |
| 3.  | Xiaomi mobile company better utilized their distribution channel option | 2 Marks              | L2 | CO2 |  |
|     | to compete better in Indian market. Explain.                            |                      |    |     |  |
| 4.  | List any four soft infrastructure.                                      | 2 Marks              | L2 | CO2 |  |
| 5.  | What is meant by causal method of forecasting?                          | 2 Marks              | L1 | CO3 |  |

## Part B

## Answer ALL Questions. Each question carries 10 marks. 4Q

4QX10M=40M

**6.** Consider any of the service industries of your like. For the assumed industry, 10 Marks L2 CO1 draw and explain various stages involved in the Supply chain.

### OR

7. How the understanding of Push-Pull view will help to realign the supply chain 10 Marks L2 CO1 architecture? Explain the same with any of the case example.

**8.** What is the importance of decisions in supply chain management? Briefly 10 Marks L1 CO1 elaborate the three decision phases in SCM.

### OR

- **9.** Consider any of the product of your own interest and for the assumed case, 10 Marks L2 CO1 explain how you will align different drivers of supply chain.
- **10.** Consider suitable real life examples and explain the following type of 10 Marks L2 CO2 distribution network designs with suitable sketches.
  - (i) Manufacturer storage with direct shipping and in-transit merge
  - (ii) Distributor storage with last-mile delivery

### OR

- **11.** A framework is always helpful to the decision maker in executing business 10 Marks L2 CO2 decisions in a very systematic manner. In this context, explain the framework for Supply Chain Network Design with suitable diagram.
- **12.** Forecasting is generally a very important aspect of planning for any business 10 Marks L2 CO3 organization. Discuss in detail about various forecasting techniques that you know.

### OR

**13.** The sales data of the D-Square television Ltd., for the past 5 months in Indian 10 Marks L2 CO3 market is given below:

| Jan 2024 | Feb 2024 | Mar 2024 | Apr 2024 | May 2024 |  |
|----------|----------|----------|----------|----------|--|
| 5540     | 8920     | 8405     | 9220     | 7890     |  |

Based on the past data, estimate the demand for the month of June 2022 using both the methods of Moving average and Exponential smoothing. Assume the value of smoothing constant as 0.2. Also, calculate the forecast error for both the methods, if the company realized the actual sale as 7410 in the month of June 2024.