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**PRESIDENCY UNIVERSITY**

**Bengaluru**

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| **End - Term Examinations – JANUARY 2025** |
| **Date:** 17-01-2025 **Time:** 09.30 AM to 12.30 PM |

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| **School:** SOE | **Program:** B. Tech – MEC/MCM | |
| **Course Code:** MEC2003 | **Course Name:** Supply Chain Management | |
| **Semester**: V | **Max Marks**: 100 | **Weightage**:50% |

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| --- | --- | --- | --- | --- | --- |
| **CO - Levels** | **CO1** | **CO2** | **CO3** | **CO4** | **CO4** |
| **Marks** | **20** | **20** | **20** | **20** | **20** |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Do not write anything on the question paper other than roll number.*

**Part A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Answer ALL the Questions. Each question carries 2marks. 2Mx10Q=20 Marks** | | | | |
| **1** | Define Supply Chain Management. | **2 Marks** | **L1** | **CO1** |
| **2** | What do understand by the term “Efficient Supply Chain”? Give a real life example for the same. | **2 Marks** | **L2** | **CO1** |
| **3** | What does supply chain network design decisions include? | **2 Marks** | **L1** | **CO2** |
| **4** | List any four factors influencing supply chain network design. | **2 Marks** | **L1** | **CO2** |
| **5** | What do you mean by causal forecasting? | **2 Marks** | **L1** | **CO3** |
| **6** | How exponential smoothing is different from moving average method of forecasting? | **2 Marks** | **L2** | **CO3** |
| **7** | Define 3PL. | **2 Marks** | **L1** | **CO4** |
| **8** | What mode of transport is predominant in India? How much is the contribution of it to the total in terms of percentage? | **2 Marks** | **L2** | **CO4** |
| **9** | Why it is so difficult for Small- and medium-sized enterprises to step into supply chain digitization? | **2 Marks** | **L2** | **CO5** |
| **10** | How 3D will help supply chain management to move from push to pull? | **2 Marks** | **L2** | **CO5** |

**Part B**

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| --- | --- | --- | --- | --- | --- |
| **Answer ALL Questions. Each question carries 16 marks. 5QX16M=80Marks** | | | | | |
| **11** | **11a** | Explain in detail about various decision phases in supply chain management. | **8 Marks** | **L2** | **CO1** |
| **11b** | Draw and explain any of the manufacturing industry’s supply chain with various stages involved and explain each stage in detail. | **8 Marks** | **L2** | **CO1** |
| **or** | | | | | |
| **12** | **12a** | Illustrate how the understanding push-pull view would benefit a Supply Chain to align its processes. | **8 Marks** | **L3** | **CO1** |
| **12b** | Depict the framework that aligns competitive strategy of a firm with various drivers of supply chain and explain in detail. | **8 Marks** | **L2** | **CO1** |
|  |  |  |  |  |  |
| **13** | **13a** | What would be the effect of lack of co-ordination in a supply chain? Explain elaborately. | **8 Marks** | **L2** | **CO2** |
| **13b** | Explain in detail about the role of network design in a supply chain. | **8 Marks** | **L2** | **CO2** |
| **or** | | | | | |
| **14** | **14a** | Draw and explain the following designs of distribution network:   1. Distributor storage with carrier delivery 2. Retail storage with customer pickup | **8 Marks** | **L2** | **CO2** |
| **14b** | Explain the four important phases involved in Supply Chain network design and explain. | **8 Marks** | **L2** | **CO2** |
|  |  |  |  |  |  |
| **15** | **15a** | Briefly explain quantitative and qualitative method of forecasting with the classification diagram. | **8 Marks** | **L2** | **CO3** |
| **15b** | A retailer of a computer shop has experienced the monthly demand of particular band of computer for the past 5 months is given below:  D1= 125, D2= 137, D3= 124, D4=136 and D5= 135  Estimate the value of demand for 6th month using exponential smoothing method assuming the smoothing constant as 0.2 | **8 Marks** | **L3** | **CO3** |
| **or** | | | | | |
| **16** | **16a** | Explain causal and simulation based forecasting techniques. Also brief when both of these methods are very useful. | **8 Marks** | **L2** | **CO3** |
| **16b** | For Home appliances distributor, the demand for particular model of fridge is 2,000 units per month. Order placement, transportation, and receiving cost incurred by the distributor is $1,000 each time when an order is placed. Each item costs them $300 and the retailer has a holding cost of 15 percent. Evaluate the number of fridge that the store manager should order in each replenishment lot and how many orders he has to make per year. Also find out total annual cost. | **8 Marks** | **L3** | **CO3** |
|  |  |  |  |  |  |
| **17** | **17a** | Explain about waterways as important mode of fright transport. Also list various merits and demerits of the same. | **8 Marks** | **L2** | **CO4** |
| **17b** | Narrate how Indian logistics industry is growing and efforts made the Government to meet the standards of Global Supply Chain requirements. | **8 Marks** | **L3** | **CO4** |
| **or** | | | | | |
| **18** | **18a** | How will differentiate various logistics service providers? Start with 1PL and go up to 5PL companies while explaining the same. | **8 Marks** | **L2** | **CO4** |
| **18b** | Elaborate how the use of information technology will be helpful to logistics industry. | **8 Marks** | **L3** | **CO4** |
|  | | | | | |
| **19** | **19a** | Demonstrate how real time and data analytics will impact logistics and supply chain industry positively. | **8 Marks** | **L2** | **CO5** |
| **19b** | Illustrate the case of food supply chain and give detail on how blockchain technology will benefit the industry concern. | **8 Marks** | **L3** | **CO5** |
| **or** | | | | | |
| **20** | **20a** | Describe the role of autonomous vehicles in improving supply chain performance. | **8 Marks** | **L3** | **CO5** |
| **20b** | Explain the impact of additive manufacturing on spare parts supply chain industry with suitable sketch. | **8 Marks** | **L3** | **CO5** |