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**Presidency University**

**Bengaluru**

**SCHOOL OF INFORMATION SCIENCE**

**SUMMER TERM END TERM EXAMINATION AUGUST -2024**

**Semester & AY**: Summer Term 2021-22

**Course Code**: MEC2003

**Course Name**: Supply Chain Management

**Program & Sem**: BCA

**Date**: 12 August 2024

**Time**: 09:30 AM to 12:30 PM

**Max Marks**: 100

**Weightage**: 50%

**Instructions:**

1. *Read the all questions carefully and answer accordingly.*

**Part A [Memory Recall Questions]**

**Answer all the Questions. Each question carries 2 marks. (10Qx 2M= 20M)**

1. Mention the three important flows in a Supply Chain. [2M] (C.O.1) [Knowledge]

2. What do understand by the term “Responsive Supply Chain”? Give a real life example (company) for the same. [2M] (C.O.1) [Knowledge]

3. The role of distribution network is critical for the success of business. Give reason.

[2M] (C.O.2) [Knowledge]

4. List any four hard infrastructure. [2M] (C.O.2) [Knowledge]

5. Define demand forecasting. [2M] (C.O.3) [Knowledge]

6. Under what circumstances qualitative forecasting method is more suitable?

[2M] (C.O.3) [Knowledge]

7. Which is generally the cheaper mode transport? [2M] (C.O.4) [Knowledge]

8. When seaways should be considered as a mode of transportation? What sort of products are generally transported in this mode? [2M] (C.O.4) [Knowledge]

9. How big data analytics will help supply chain management? [2M] (C.O.5) [Knowledge]

10. As per your understanding, mention any two technologies that food supply chain needs to bring efficiency and transparency. [2M] (C.O.5) [Knowledge]

**Part B [Thought Provoking Questions]**

**Answer all the Questions. Each question carries 8 marks. (5Qx8M=40M)**

11. Assume that you are involved in supply chain design of a company. In such situation, what is importance of Push-Pull view in the supply chain architecture? Explain the same with appropriate diagram. [8M] (C.O.1) [Comprehension]

12. Consider suitable real life examples and explain the following type of distribution network designs with suitable sketches.

(i) Manufacturer storage with direct shipping and in-transit merge

(ii) Distributor storage with last-mile delivery

[8M] (C.O.2) [Comprehension]

13. Co-ordination among various stages of supply chain is critical for any type of business. Based on your understanding, explain what will happen to various supply chain performance metrics if the supply chain lacks coordination. [8M] (C.O.3) [Comprehension]

14. As per your understandings, when railways should be used for moving freights? Also elaborate pros and cons of railways. [8M] (C.O.4) [Comprehension]

15. Various technologies, especially computer related are changing the landscape of every domain including supply chain. Discuss in detail about any two disruptive technologies that will have impact on supply chain operation. [8M] (C.O.5) [Comprehension]

**Part C [Problem Solving Questions]**

**Answer all the Questions. Each question carries 10 marks. (4Qx10M=40M)**

16. Consider any of the manufacturing industry of your like. For the assumed case, explain various stages involved in the Supply chain with suitable schematic diagram.

[10M] (C.O.1) [Comprehension]

17. The sales data of the D-Square television Ltd., for the past 5 months in Indian market is given below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Jan 2022 | Feb 2022 | Mar 2022 | Apr 2022 | May 2022 |
| 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 2022. [10M] (C.O.3) [Application]

18. Demand for the XYZ laptop is 1,500 units per month. The company incurs a fixed order placement, transportation, and receiving cost of $3,000 each time an order is placed. Each laptop costs $400 and the retailer has a holding cost of 20 percent. Evaluate the number of laptops that the store manager should order in each replenishment lot. Also find out total annual cost. [10M] (C.O.3) [Application]

19. Assume any of the real life supply chain of your interest and explain in detail how the implementation of different advanced technologies that will help to improve the performance of the supply chain considered. [10M] (C.O.5) [Application]