U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

July 2023 Semester End Main Examinations

Programme: B.E. **Semester: VI**
Branch: Institutional Elective **Duration: 3 hrs.**
Course Code: 20IM6IESCM **Max Marks: 100**
Course: Supply Chain and Logistics Management **Date: 07.07.2023**

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I	CO	PO	Marks
1	a)	Define supply chain management? Consider the purchase of a detergent in a supermarket and with a neat diagram explain different phases involved in supply chain	CO1	-	**10**
	b)	Identify and explain the key decision phases in supply chain	CO1	-	**10**
		UNIT - II			
2	a)	Supply chain manager is interested to obtain space for lease for the next three years for a certain brand of product. He estimates that the demand for the product is 100,000 units, also he predicts that for every 1000 sq. ft. of space for every 1000 units of demand. The revenue generated is assumed to be Rs. 1.22 per unit demand. Two options are available for the manager to make decision: (i) To go for Spot market and assumes a cost of Rs. 1 per sq. ft. (ii) To sign a three – year lease contract which incurs a cost of Rs. 1 per sq. ft. The rate of interest is assumed to be 10% irrespective of the choice he has. Determine which of the above option should manager select and why?	CO2	PO2	**08**
	b)	Explain various risks and mitigation strategies associated with global supply chains.	CO1	-	**10**
		UNIT - III			
3	a)	Discuss the role of inventory management in Supply chain	CO3	PO1	**05**
	b)	Differentiate between P – System and Q - system	CO3	PO1	**05**

		c)	The following information is known about a group of items. **Model Number** / **Annual Consumption** / **Unit Price (Rs)** / **Model Number** / **Annual Consumption** / **Unit Price (Rs)** 501 / 30 / 10 / 506 / 2200 / 10 502 / 280 / 15 / 507 / 150 / 5 503 / 30 / 10 / 508 / 800 / 5 504 / 1100 / 5 / 509 / 600 / 15 505 / 40 / 5 / 510 / 80 / 10 Classify the material in A, B, C categories:	*CO3*	*PO2*	**10**
			OR			
4	a)		With suitable assumptions derive an expression to determine economic order quantity and total cost for instantaneous replenishment with shortages	*CO3*	*PO2*	**10**
	b)		Determine the optimal order quantity for a product for which the price breaks are as under: ***Quantity*** / ***Unit cost in Rs. per unit.*** $0 \leq Q_1 \leq 500$ / 10.00 $500 \leq Q_2 \leq 750$ / 9.25 $750 \leq Q_3 \leq \infty$ / 8.75 The monthly demand for the product is 200 units. The cost of storage is 2% of the unit cost and the cost of ordering is Rs. 350/- per order.	*CO3*	*PO2*	**10**
			UNIT - IV			
5	a)		With respect to transportation networks, explain with a neat sketch (i) Direct shipping with milk runs, (ii) All shipments via central DC.	*CO2*	*PO1*	**10**
	b)		Compare different modes of transportation considered in logistics management.	*CO2*	*PO1*	**10**
			OR			
6	a)		With examples explain 3PL and 4PL service providers.	*CO2*	*PO1*	**10**
	b)		Explain types of supply chain contracts followed in any organization.	*CO2*	*PO1*	**10**
			UNIT - V			
7	a)		List and explain types of supply chain analytics adopted in industries.	*CO4*	*PO1*	**10**
	b)		With suitable examples, explain the reasons why many organizations are adopting sustainable practices in their supply chain.	*CO4*	*PO4*	**10**

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