06-06-2026 BE MECHANICAL SEM-VII C SCHEME LSCM QP CODE: 20009365

Time: 3 Hours **Max. Marks: 80**

Note :

- **Question No.1 is compulsory.**
- Solve **ANY THREE** questions from the **remaining** five questions.
- Figure to the right indicates full marks.
- Assume suitable data wherever required, but justify the same.

			Marks
Q. 1		Solve **ANY FOUR** questions from following. (Each question carries 5 marks)	
	a)	Describe the role of RFID in Supply Chains with the help of a suitable example.	**5**
	b)	State the assumptions in deriving the basic EOQ formula.	**5**
	c)	Describe the relationship between logistics and supply chain management.	**5**
	d)	Draw a neat labeled sketch of the various distribution network designs.	**5**
	e)	Describe a WMS (Warehouse Management System) with the help of a neat sketch.	**5**
Q. 2	**a)**	Describe the concept of 4PL with the help of a neat labeled sketch and an example.	**10**
	b)	Describe the various causes of Bullwhip Effect. How can the issue of Bullwhip Effect be addressed?	**5**
	c)	The annual demand for an item is 3,200 units. The unit cost is Rs. 6 and the inventory carrying charges are 25 % per annum. If the cost of one procurement is Rs. 150, determine: 1. The Economic Order Quantity. 2. The number of orders per year. 3. The time between two consecutive orders. 4. The optimal cost.	**5**
Q. 3	**a)**	Describe Q system of inventory control with the help of a suitable example. State its advantages and disadvantages.	**5**
	b)	Describe the concept of Minimum Order Quantity.	**5**
	c)	How does inventory control differ in ABC Analysis for A, B and C class of items.	**10**
Q. 4	**a)**	Differentiate between an Efficient Supply Chain and a Responsive Supply Chain.	**10**
	b)	Differentiate between Local Supply Chains and a Global Supply Chains.	**10**
Q. 5	**a)**	Describe the role of ERP in Supply Chain Management.	**10**
	b)	Describe the concept of multi-modal transportation. State the advantages and limitations of multi-modal transportation.	**10**
Q. 6	**a)**	Describe the Process View of Supply Chain.	**10**
	b)	Differentiate between Lean Supply Chains; Green Supply Chains and Sustainable Supply Chains.	**10**

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