LOGISTICS & SUPPLY CHAIN MANAGEMENT

Course Code	20ME2501B	**Year**	III	**Semester**	I
Course Category	**Open Elective**	**Branch**	ECE	**Course Type**	Theory
Credits	3	**L-T-P**	3-0-0	**Prerequisites**	‘’
Continuous Internal Evaluation:	30	**Semester End Evaluation:**	70	**Total Marks:**	100

Course Outcomes		Level
Upon successful completion of the course, the student will be able to		
CO1	Identify the importance of Supply Chain Management	L2
CO2	Explain different Inventory control techniques	L1
CO3	Design various Supply Chain Networks suitable for various market conditions	L3
CO4	Discuss supply chain strategies and procurement strategies	L1
CO5	Identify various issues in Supply Chain Management	L2

CO’S /PO’S	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO 1	PSO 2
CO 1		2							2		3			1
CO 2		2							2		3			1
CO 3		2							2		3			1
CO 4		2							2		3			1
CO 5		2							2		3			1

Syllabus		
UNIT	**Content**	**Mapped CO**
I	**Introduction to Supply Chain Management (SCM):** Concept of supply management and SCM, importance of supply chain flows, core competency, value chain, elements of supply chain efficiency, key issues in SCM, decision phases, supply chain integration, process view of a supply chain, competitive strategy and supply chain strategies, uncertainties in supply chain, supply chain drivers.	**CO1**
II	**Inventory Management**: Introduction, selective control techniques, cost involved in inventory system, single stage inventory control, economic lot size models, application to economic production quantity, effect of demand	**CO2**

	uncertainty, single period models, initial inventory, multiple order opportunities, deterministic models, quantity discounts. periodic and quantity review policies, mathematical modeling under known stock out costs and service levels, joint replenishment for multiple items, inventory system constraints, working capital restrictions, and storage space restrictions.	
III	**Designing Supply Chain Network:** Introduction, network design, factors influencing network design, data collection, data aggregation, transportation rates, warehouse costs, capacities and locations, models and data validation, key features of a network configuration, impact of uncertainty on network design, network design in uncertain environment, value of information: Bullwhip effect, information sharing, information and supply chain trade-offs, distribution strategies, direct shipment distribution strategies, transshipment and selecting appropriate strategies.	**CO3**
IV	**Supply Chain Integration:** Introduction, push-pull supply chains, identifying appropriate supply chain strategy, Sourcing and procurement, outsourcing benefits, importance of suppliers, evaluating a potential supplier, supply contracts, competitive bidding and negotiation. Purchasing, objectives of purchasing, relations with other departments, centralized and decentralized purchasing, purchasing procedure, types of orders, e-procurement, tender buying, role of business in supply chains.	**CO4**
V	**Issues in Supply Chain Management:** Introduction, risk management, managing global risk, issues in international supply chain, regional differences in logistics. Local issues in supply chain, issues in natural disaster and other calamities, issues for SMEs, organized retail in India, reverse logistics.	**CO5**

Learning Resources
Text books:
1. Simchi-Levi, D. Kaminsky, P.Simchi-Levi, E. and Ravi Shankar, Designing and Managing the Supply Chain: Concepts, Strategies and Case Studies, 3/e, Tata McGraw-Hill, 2008. 2. Chopra, S. and Meindl, Supply Chain Management: Strategy, Planning and Operations, 2/e, Pearson Education, 2004.
Reference books
1. Doebler, D.W. and Burt, D.N, Purchasing and Supply Management-Text and Cases, 6/e, McGraw- Hill, 1996. 2. Tersine, R.J, Principles of Inventory and Materials Management, 4/e, Prentice Hall, 1994.
e- Resources & other digital material
1. https://ocw.mit.edu/courses/engineering-systems-division/esd-273j-logistics-and-supply-chain-management-fall-2009/lecture-notes/ 2. https://nptel.ac.in/courses/110/108/110108056/