



**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**Syllabus for Master of Business Administration (Part-Time), 4<sup>th</sup> Semester**  
**Subject Name: Logistics and Supply chain management**  
**Subject Code: 5549984**

**1. Learning Outcomes:**

Learning Outcome Component	Learning Outcome
Business Environment and Domain Knowledge (BEDK)	<ul style="list-style-type: none"> <li>• Demonstrate the ability to analyze, structure and discuss situations to identify problems in the field of LSCM and evaluate their complexity.</li> </ul>
Critical thinking, Business Analysis, Problem Solving and Innovative Solutions (CBPI)	<ul style="list-style-type: none"> <li>• Demonstrate ability to address LSCM problems holistically by considering all resources available.</li> </ul>
Global Exposure and Cross-Cultural Understanding (GECCU)	<ul style="list-style-type: none"> <li>• Develop a sound understanding of the important role of supply chain management in today's business environment.</li> </ul>
Social Responsiveness and Ethics (SRE)	<ul style="list-style-type: none"> <li>• Develop and utilize critical management skills such as negotiating, working effectively within a diverse business environment, ethical decision making and use of information technology.</li> </ul>
Effective Communication (EC)	<ul style="list-style-type: none"> <li>• Present and elaborate strong arguments to convince and motivate decision makers and select the proper LSCM partners, practices and policies.</li> </ul>
Leadership and Teamwork (LT)	<ul style="list-style-type: none"> <li>• Plan and coordinate projects to implement solutions.</li> </ul>

**LO – PO Mapping: Correlation Levels:**

1 = Slight (Low); 2 = Moderate (Medium); 3 = Substantial (High), “-“= no correlation

Sub. Code: 5549984	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
<b>LO1:</b> Evaluate relevance of logistics and supply chain management in international trade.	3	-	2	-	3	-	-	1	2
<b>LO2:</b> Identify and chart a global company's key business functions, business processes, and stakeholders.	3	3	1	1	2	1	-	1	1
<b>LO3:</b> Examine the levels of risk, efficiency, and sustainability of a supply chain.	1	-	2	-	1	2	-	1	1
<b>LO4:</b> Analyze how interruptions in the global supply chain affect business.	1	1	1	-	-	-	1	1	1
<b>LO5:</b> Examine how world-class companies encourage collaboration among international business partners.	2	3	-	-	2	2	1	1	1
<b>LO6:</b> Defend ethical choices of strategy in international trade.	-	-	-	2	1	1	3	-	-
<b>LO7:</b> Communicate effectively in oral and written forms about international supply chain management using appropriate concepts, logic and convention.	1	1	1	3	1	1	-	2	-



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<b>LO8:</b> Garner managerial insights for various supply chain issues in a variety of industry contexts.	2	3	-	3	1	3	-	-	1
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**2. Course Duration:** The course duration is of **40 sessions of 60 minutes each.**

**3. Course Contents:**

Module No:	Contents	No. of Sessions	70 Marks (External Evaluation)
<b>I</b>	<p><b>Logistics and Supply Chain Management – An Overview:</b></p> <ul style="list-style-type: none"> <li>• Logistics, Supply Chain Management and the difference between logistics and Supply Chain Management.</li> <li>• Supply chain and value chain</li> <li>• Mission of logistics management</li> <li>• Value addition by logistics</li> <li>• Drivers of supply chain performance</li> </ul> <p><b>Supply Chain Strategy and Performance Measures:</b></p> <ul style="list-style-type: none"> <li>• Customer service and cost trade-offs               <ul style="list-style-type: none"> <li>▪ Impact of out-of-stock</li> <li>▪ Setting customer service objectives and priorities</li> </ul> </li> <li>• Supply chain performance measures</li> <li>• Enhancing supply chain performance</li> </ul> <p><b>Outsourcing: Make versus Buy.</b></p>	10	18
<b>II</b>	<p><b>Logistics Management:</b></p> <ul style="list-style-type: none"> <li>• Role of Logistics in Supply Chain Management</li> <li>• Logistics Service Providers 3PL's &amp; 4PL's</li> <li>• Logistics Activities</li> <li>• Marketing and logistics interface</li> <li>• Logistics cost analysis and total cost analysis</li> <li>• Reducing logistics lead time</li> <li>• Packaging and materials handling</li> </ul> <p><b>Designing Transportation Network:</b></p> <ul style="list-style-type: none"> <li>• Drivers of transportation decisions</li> <li>• Modes of transportation</li> <li>• Design options               <ul style="list-style-type: none"> <li>• Direct shipment network</li> <li>• Direct shipping via milk run</li> <li>• Distribution center</li> <li>• Cross docking</li> <li>• Shipping via DC using milk runs</li> <li>• Tailored network</li> </ul> </li> <li>• Routing, scheduling and sequencing in transportation.</li> <li>• Vehicle Routing Problems.</li> <li>• Route sequencing procedure               <ul style="list-style-type: none"> <li>• Farthest insert, nearest insert, nearest neighbor, Sweep</li> </ul> </li> </ul>	10	18



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	<ul style="list-style-type: none"> <li>Route improvement procedure <ul style="list-style-type: none"> <li>2-OPT and 3-OPT.</li> </ul> </li> </ul> <b>Reverse Logistics:</b> <ul style="list-style-type: none"> <li>Definition, reasons, benefits</li> <li>Elements of reverse logistics</li> <li>Closed loop supply chain</li> </ul>		
<b>III</b>	<b>Network Design:</b> <ul style="list-style-type: none"> <li>Define the network design process</li> <li>Perform a LSCM Audit</li> <li>Examine the LSCM network alternatives</li> <li>Conduct a Facility Location analysis</li> <li>Make decisions regarding network and facility locations</li> <li>Develop an implementation plan.</li> <li>Modeling Approaches: <ul style="list-style-type: none"> <li>Optimization and simulation models</li> </ul> </li> <li>Facility Location</li> </ul> <b>Supply Chain Integration:</b> <ul style="list-style-type: none"> <li>Internal and External Integration</li> </ul> <b>Supply Chain Restructuring.</b>	10	17
<b>IV</b>	<b>Synchronous Supply Chain:</b> <ul style="list-style-type: none"> <li>Virtual supply chain and the extended enterprise</li> <li>Quick response logistics</li> <li>Role of information</li> </ul> <b>Agile Supply Chains.</b> <b>Introduction to use of Technology in SCM</b> <ul style="list-style-type: none"> <li>Role of Technology in Supply Chain Management</li> <li>Key Application Tools</li> <li><b>Strategic Challenges for supply chains. Sustainable Supply Chain Management.</b></li> </ul>	10	17
<b>V</b>	<b>Practical:</b> Assignment/Presentation based on the above topics or the selected Industry or Firm.	---	(30 marks CEC)

**4. Pedagogy:**

The course will use the following pedagogical tools:

- Classroom Discussion of Concepts and Applications
- Case Discussions
- Discussion on articles and news from Financial Daily such as Business Standard or Economic Times, blogs and other websites on daily basis
- Management Exercise / Stimulations /Games/ Learning from Movies

**5. Evaluation:**

Students shall be evaluated on the following components:

<b>A</b>	<b>Internal Evaluation</b>	<b>(Internal Assessment- 50 Marks)</b>
	<ul style="list-style-type: none"> <li>Continuous Evaluation Component</li> </ul>	30 marks
	<ul style="list-style-type: none"> <li>Class Presence &amp; Participation</li> </ul>	10 marks



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	• Quiz	10 marks
<b>B</b>	<b>Mid-Semester examination</b>	<b>(Internal Assessment-30 Marks)</b>
<b>C</b>	<b>End –Semester Examination</b>	<b>(External Assessment-70 Marks)</b>

**6. Reference Books:**

Sr No	Author	Name of the Book	Publisher	Year of Publication
1	Martin Christopher	Logistics and Supply Chain Management	FT Publishing	2016 / 5 <sup>th</sup>
2	Donald J Bowersox, David J Closs,. M. Bixby Cooper, John C. Bowersox	Supply Chain Logistics Management	McGraw Hill	2018 / 4 <sup>th</sup>
3	John J. Coyle, C. John Langley, Brian J. Gibson, Robert A. Novack	Managing Supply Chain: A Logistics Approach	Cengage	2013 / 9 <sup>th</sup>
4	Janat Shah	Supply Chain Management: Text and Cases	Pearson	2016 / 2 <sup>nd</sup>
5	Chopra Sunil, Peter Meindl, Kalra DharamVir	Supply Chain Management : Strategy, Planning, and Operation	Pearson Publishers	2016 / 6 <sup>th</sup>
6	Mr.V.Anandaraj, Dr.S. Ramachandran, Mr.S.Kumaran, Mr.Ishanka Saikia	Supply Chain and Logistics Management	Airwalk	2018 / 1st
7	D. K. Agarwal	Textbook of Logistics and Supply Chain Management	Trinity	2015
8	Chase Richard B, Shankar Ravi, Jacobs F Robert	Operations and Supply Chain Management	McGraw Hill	2014
9	Russell and Taylor	Operations and Supply Chain Management	Wiley	2016 / 9 <sup>th</sup>
10	Bhat Shridhara K	Supply Chain Management	Himalaya	2010
11	Wisner, Keong Leong and Keah-Choon Tan	Principles of Supply Chain Management A Balanced Approach	Cengage	2018 / 5 <sup>th</sup>
12	James Stevens	Supply Chain Management: Strategy, Operation & Planning for Logistics Management (Logistics, Supply Chain Management, Procurement)	Shepal	2016

Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

**7. List of Journals / Periodicals / Magazines / Newspapers / Web resources, etc.**

1. The International Journal of Logistics Management
2. International Journal of Logistics Research and Applications
3. Journal of Supply Chain Management, Logistics and Procurement
4. Logistics and Supply Chain Practices in India
5. Supply Chain Management Review
6. Inbound Logistics