

GUJARAT TECHNOLOGICAL UNIVERSITY

MECHANICAL (INDUSTRIAL ENGINEERING) (46)

LOGISTICS AND SUPPLY CHAIN MANAGEMENT

SUBJECT CODE: 2734604

M.E. 3rd SEMESTER

Type of course: Major Elective - IV

Prerequisite: Nil

Rationale: The aim of this course is to make students understand and appreciate the importance of Logistics and Supply Chain operations in the industrial and business systems. Students can develop understanding of logistics process, procurement and out sourcing, contemporary and world class supply chain management practices as well as impact of IT in supply chain operations. The course is also aimed at making students aware of supplier and customer relations in the context of supply chain management.

Teaching and Examination Scheme:

w.e.f Jul 2015

Teaching Scheme			Credits C	Examination Marks						Total Marks	
L	T	P		Theory Marks		Practical Marks					
				ESE (E)	PA (M)	ESE (V)		PA (I)			
						ESE	OEP	PA	RP		
3	2#	2	5	70	30	20	10	10	10	10	150

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	Logistics & Supply Chain Management: Evolution of Supply Chain, Classification of Logistics Applications, Total logistics cost, Logistics to Supply Chain Management focus, Objectives of Supply Chain Management, Key factors (Drivers and Obstacles) of SCM, Size and potential of SCM market in India, Framework for supply chain planning and decision making, Strategic aspects and managing uncertainty.	08	18
2	Dynamics of SCM: Alignment processes with customer order-management system, Supply chain integration through push-pull mechanism, Bullwhip effect mechanism.	08	18
3	World-class best practices in SCM: Supplier tierization, Reverse logistics, Vendor-managed inventory, Milk round system, Hub and spoke, Third and Fourth party logistics (3PL and 4PL), Cross docking, Drop shipping, Trans-shipment, Risk-pooling, RFID, Lean operations.	08	18
4	Procurement and Outsourcing Strategies: Operational decisions and trends, Strategic outsourcing and partnerships, Bidding and negotiation processes, Vendor rating and development, e-procurement, Vendor Quality Assurance system.	08	18
5	Customer Relationship Management and Information Technology in SCM: Concept of CRM and its linkage with SCM, Marketing implications such as value added services, New product development, Strategic pricing, Need and role of IT in SCM, ERP and SCM	05	10

6	SCM Performance Measures: Implementing SCM, Performance Measurement of SCM – Traditional and Contemporary Approaches (Supply Chain Operations Reference (SCOR) Model, Performance Benchmarking, Balance Scorecard etc.)	08	18
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Reference Books:

- 1 Supply Chain Management- Concepts, Practices, and Implementation by Sunil Sharma, Oxford University Press
- 2 Supply Chain Management- Processes, System And Practice by N. Chandrasekaran, Oxford University Press

Course Outcome:

After learning the course the students should be able to:

- 1) Understand the concept of logistics and supply chain management.
- 2) Appreciate the importance of logistics function in overall success of any business/industrial sector.
- 3) Understand the interrelationship between logistics and supply chain management.
- 4) Understand the importance and dynamics of supply chain management in any business/industrial sector.
- 5) Know the world class best practices being carried out in supply chain management.
- 6) Understand the procurement and outsourcing strategies.
- 7) Understand the impact of customer relationship management in effective supply chain management.
- 8) Know how to measure the performance of supply chain operations.

List of Tutorials:

Case studies and research papers analysis on the topics from syllabus.

Design based Problems (DP)/Open Ended Problem:

Students will design a Supply Chain System of selected industry (preferably where they are working on his/her Dissertation).

Major Equipment: NA

List of Open Source Software/learning website: NA

Review Presentation (RP): The concerned faculty member shall provide the list of peer reviewed Journals and Tier-I and Tier-II Conferences relating to the subject (or relating to the area of thesis for seminar) to the students in the beginning of the semester. The same list will be uploaded on GTU website during the first two weeks of the start of the semester. Every student or a group of students shall critically study 2 papers, integrate the details and make presentation in the last two weeks of the semester. The GTU marks entry portal will allow entry of marks only after uploading of the best 3 presentations. A unique id number will be generated only after uploading the presentations. Thereafter the entry of marks will be allowed. The best 3 presentations of each college will be uploaded on GTU website.