



# SACRED HEART COLLEGE (AUTONOMOUS)

Tirupattur – 635 601, Tamil Nadu, S.India

Resi : (04179) 220103

College : (04179) 220553

Fax : (04179) 226423

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## POST GRADUATE DIPLOMA IN LOGISTICS MANAGEMENT

### Course Structure – PGDLM

Sem	Course Code	Title of the Subject	Hours/Week	Credits	CA	SE	Total
I	MSDL121	Supply Chain Management	5	5	50	50	100
	MSDL122	Transportation and Distribution Management	5	5	50	50	100
	MSDL123	Reverse and Contract Logistics	5	5	50	50	100
	MSDL124	Logistics Management	5	5	50	50	100
II	MSDL221	Warehouse Management	5	5	50	50	100
	MSDL222	Supply Chain Inventory Management	5	5	50	50	100
	MSDL223	Purchase & Inventory Management	5	5	50	50	100
	MSDL224J	Project Work	10	10			100
		Total		45			800

URL : [www.shcpt.edu](http://www.shcpt.edu)

Email : [office@shcpt.edu](mailto:office@shcpt.edu)

[principal@shcpt.edu](mailto:principal@shcpt.edu)

Semester	Course Code	Title of the Course	Hours	Credits
I	MSDL121	<b>SUPPLY CHAIN MANAGEMENT</b>	5	5

### Course Outcomes

S.NO	CO - Statement	Cognitive Level (K-Level)
CO - 1	Understand the fundamentals, Evolution and performance of supply chain	K2
CO - 2	Ability to design supply chain networks to enhance supply chain performance of supplier	K6
CO - 3	Organize demand based inventory and supply	K3
CO - 4	Evaluate the supply chain network models in supply chain performance and decisions	K5
CO - 5	Assess the innovations for sustainable development in supply chain management	K5

### Unit I Introduction

(9 Hours)

Supply Chain – Fundamentals –Evolution- Role in Economy - Importance - Decision Phases - Supplier - Manufacturer-Customer chain. - Enablers/ Drivers of Supply Chain Performance. Supply chain strategy - Supply Chain Performance Measures.

### Unit II Strategic Sourcing

(9 Hours)

Outsourcing – Make Vs buy - Identifying core processes - Market Vs Hierarchy - Make Vs buy continuum - Sourcing strategy - Supplier Selection and Contract Negotiation. Creating a world class supply base - Supplier Development - World Wide Sourcing.

### Unit III Supply Chain Network

(9 Hours)

Distribution Network Design – Role - Factors Influencing Options, Value Addition – Distribution Strategies - Models for Facility Location and Capacity allocation. Distribution Center Location Models. Supply Chain Network optimization models. Impact of uncertainty on Network Design - Network Design decisions using Decision trees.

#### **Unit IV Planning Demand, Inventory and Supply**

**(9 Hours)**

Managing supply chain cycle inventory. Uncertainty in the supply chain — Analysing impact of supply chain redesign on the inventory - Risk Pooling - Managing inventory for short life - cycle products - multiple item - multiple location inventory management. Pricing and Revenue Management

#### **Unit V Current Trends**

**(9 Hours)**

Supply Chain Integration - Building partnership and trust in SC Value of Information: Bullwhip Effect - Effective forecasting - Coordinating the supply chain. . SC Restructuring - SC Mapping -SC process restructuring, Postpone the point of differentiation – IT in Supply Chain - Agile Supply Chains – Reverse Supply chain. Agro Supply Chains.

#### **References**

1. Janat Shah,  
Supply Chain Management – Text and Cases, Pearson Education, 2009.
2. Sunil Chopra and  
Peter Meindl, Supply Chain Management-Strategy Planning and Operation, PHI Learning / Pearson Education,  
Sixth edition, 2015.
3. Ballou Ronald H,  
Business Logistics and Supply Chain Management, Pearson Education,  
5<sup>th</sup> Edition, 2007.
4. David Simchi-Levi, Philip Kaminsky, Edith Simchi-Levi, Designing and Managing the Supply Chain: Concepts,  
Strategies, and Cases, Tata McGraw-Hill, 2005.
5. Altekar Rahul V,  
Supply Chain Management-Concept and Cases, PHI, 2005.
6. Shapiro Jeremy F,  
Modeling the Supply Chain, Cengage, Second Reprint, 2002.
7. Joel D. Wisner, G.  
Keong Leong, Keah-Choon Tan, Principles of Supply Chain Management- A Balanced Approach, South-Western,  
Cengage, 2012.

Semester	Course Code	Title of the Course	Hours	Credits
I	MSDL122	<b>TRANSPORTATION AND DISTRIBUTION MANAGEMENT</b>	5	5

### Course Outcomes

S.NO	CO - Statement	Cognitive Level (K-Level)
CO - 1	Apply the flow of goods, Ordering rules and Information transmittal methods.	K-3
CO - 2	Evaluate the different types of transportation and Insurance procedure to ship the goods.	K-5
CO - 3	Predict the scope and relationship of transportation with other business functions.	K-6
CO - 4	Model the network planning, routing and scheduling in transportation	K-3
CO - 5	Relate the applications of information technology in transportation and distribution management	K-1

### Unit - I Distribution

(9 Hours)

Role of Distribution in Supply chain, Distribution channels – Functions, resources, Operations in Distribution, Designing Distribution network models - its features - advantages and disadvantages.

### Unit - II Planning

(9 Hours)

Distribution network planning, Distribution network decisions, Distribution requirement planning (DRP)

### Unit - III Transportation

(9 Hours)

Role of Transportation in Logistics and Business, Principle and Participants-Scope and Relationship with other business functions, Modes of Transportation - Mode and Carrier selection, Routing and scheduling.

### Unit - IV International Transportation

(9 Hours)

International transportation, Carrier, Freight and Fleet management, Transportation management systems- Administration, Rate negotiation, Trends in Transportation.

**Unit - V Information Technology (IT)****(9 Hours)**

Usage of IT applications -E commerce – ITMS, Communication systems-Automatic vehicle location systems, Geographic information Systems.

**References**

Raghuram and N. Rangaraj, Logistics and Supply chain Management – Leveraging Mathematical and Analytical Models: Cases and Concepts, New Delhi: Macmillan, 2000.

Janat Shah, Supply Chain Management, Pearson Education India, 2009.

Sunil Chopra, Peter Meindl, Supply Chain Management: Strategy, Planning, and Operation, Pearson, 2010.

Michael B Stroh, Practical Guide to Transportation and Logistics, Logistics Network, 2006.

Alan Rushton, John Oxley, Handbook of Logistics & Distribution Management, Kogan Page Publishers, 2002

Semester	Course Code	Title of the Course	Hours	Credits
I	MSDL123	<b>REVERSE AND CONTRACT LOGISTICS</b>	5	5

**Course Outcomes**

S.NO	CO - Statement	Cognitive Level (K-Level)
CO - 1	Formulate a the practices and processes set up for organizing product returns from points-of-sales to the manufacturer in order to repair, recycle or dispose of these articles in the most cost-effective way.	<b>K-6</b>
CO - 2	Understand the basics of contract logistics, third party logistics industry and third party logistics providers	<b>K-2</b>
CO - 3	Develop recouping the monetary value of items that were rejected can open up new business opportunities.	<b>K-4</b>
CO - 4	Apply and implement a contract logistics and closed supply chain in Retail, FMCG and Automobile sectors.	<b>K-3</b>
CO - 5	Show the returns and making the return order right, reduce related costs (administration, shipping, transportation, tech support, QA, etc.)	<b>K-1</b>

**Unit - I Contract Logistics****(9 Hours)**

Third party logistics industry overview - A framework for strategic alliances - Evolution of contract logistics - Types of third party logistics providers – Automobile, FMCG and Retail-Third party services and integration

**Unit - II Closed Loop Supply Chains and Logistics****(9 Hours)**

Introduction closed loop supply chains and logistics – Logistics and closed loop supply chain service - Overview of return logistics and closed loop supply chain models – Introduction product returns - Product Vs Parts returns - Strategic issues in closed loop supply chains

**Unit - III Business and Market****(9 Hours)**

Overview - Introduction life cycle management - Trends and opportunities – Auto Warranty management, return process and benchmarks - Market overview - Reasons for using reverse logistics - General characteristics - Consumer goods Depot repair and value added services – Operating dynamics - Competitive evaluation - Secondary markets and final disposal.

**Unit - IV Emerging Trends****(9 Hours)**

Emerging trends in Retail, E-Commerce- FMCG and Automobile sectors- Systems and technology - For consumer goods operations, High tech logistics system - Impact and value of advanced logistics

**Unit - V Managing Processes****(9 Hours)**

Managing processes - Step by step process - Use of third party service providers - Additional factors – Contemporary issues – Make in India and its impact on Countries GDP and Economic Growth.

**References**

- Janat Shah, Supply Chain Management: Text and Cases, Pearson Education India, 2009  
John Manners-Bell, Logistics and Supply Chains in Emerging Markets, Kogan Page, 2014.  
Coyle et.al, Management of Transportation, 7th Edition, Cengage Learning, 2011  
D. F. Blumberg, Reverse Logistics & Closed Loop Supply Chain Processes, Taylor and Francis, 2005  
Hsin-I Hsiao, Wageningen, Logistics Outsourcing in the Food Processing Industry, Academic Pub, 2009.  
Surendra M. Gupta, Sustainability in Supply Chain Management Casebook: Applications in SCM, McGraw Hill, 2013

Semester	Course Code	Title of the Course	Hours	Credits
I	MSDL124	<b>LOGISTICS MANAGEMENT</b>	5	5

## Course Outcomes

S.NO	CO - Statement	Cognitive Level (K-Level)
CO - 1	Design network that denotes the number and location of production plants, storage houses, equipment for handling of materials in moving products with optimization of time and cost	K-6
CO - 2	Develop knowledge of risks associated and time utility by delivering goods at right time and in right order	K-4
CO - 3	Identify process and functions of logistics system and examine the major building blocks, functions, business process, performance metrics and decision making in supply chain network.	K-3
CO - 4	Analyze to lower the transportation expenses by choosing efficient transportation source, planning of shortest route, freight consolidation and load unitizing in reducing the freight charges.	K-4
CO - 5	Adapt latest technologies in information processing and communications to enhance the decision-making capability in terms of accuracy and time, enabling the enterprise to be flexible enough to fulfil the customer requirements	K6

### Unit I Introduction

(9 Hours)

Definition and Scope of Logistics – Functions & Objectives – Customer Value Chain – Service Phases and attributes – Value added logistics services – Role of logistics in Competitive strategy – Customer Service

### Unit II Distribution Channels and Outsourcing Logistics

(9 Hours)

Distribution channel structure - channel members, channel strategy, role of logistics and support in distribution channels. Logistics requirements of channel members. Logistics outsourcing – catalysts, benefits, value proposition. Third and fourth party logistics. Selection of service provider.

### Unit III Transportation and Packaging

(9 Hours)

Transportation System – Evolution, Infrastructure and Networks. Freight Management – Vehicle Routing – Containerization. Modal Characteristics, Inter-modal Operators and Transport Economies. Packaging- Design considerations, Material and Cost. Packaging as Unitisation. Consumer and Industrial Packaging.

**Unit IV Performance Measurement and Costs****(9 Hours)**

Performance Measurement – Need, System, Levels and Dimensions. Internal and External Performance Measurement. Logistics Audit. Total Logistics Cost – Concept, Accounting Methods. Cost – Identification, Time Frame and Formatting.

**Unit V Current Trends****(9 Hours)**

Logistics Information Systems – Need, Characteristics and Design. E-Logistics – Structure and Operation. Logistics Resource Management eLRM. Automatic Identification Technologies. Reverse Logistics – Scope, design and as a competitive tool. Global Logistics – Operational and Strategic Issues, ocean and air transportation. Strategic logistics planning. Green Logistics

**References**

1. Bowersox Donald J, Logistics Management – The Integrated Supply Chain Process, Tata McGraw Hill, 3rd edition 2016
2. Sople Vinod V, Logistics Management – The Supply Chain Imperative, Pearson Education, 3rd Edition, 2012.
3. Coyle et al., The Management of Business Logistics, Cengage Learning, 7th Edition, 2004.
4. Ailawadi C. Sathish & Rakesh Singh, Logistics Management, PHI, 2011.
5. Bloomberg David J et al., Logistics, Prentice Hall India, 2005.
6. Ronald H. Ballou, Business Logistics and Supply Chain Management, Pearson Education, 5<sup>th</sup> Edition, 2007.

Semester	Course Code	Title of the Course	Hours	Credits
II	MSDL221	<b>WAREHOUSE MANAGEMENT</b>	5	5



## Course Outcomes

S.NO	CO - Statement	Cognitive Level (K-Level)
CO - 1	List the activities carried out there are the receipt, storage, preparation and dispatch of goods	K-1
CO - 2	Classify materials are accessible whenever the production department needs them, ensuring that production is not stopped or slowed down due to a lack of resources	K-2
CO - 3	Organize to purchasing products or stock on a regular basis, an organisation may negotiate discounts and other incentives to lower the overall cost	K-3
CO - 4	Evaluate and describing proper and safe warehouse operations and techniques	K-5
CO - 5	Comparing operational warehouse processes using terminology, concepts and methods of warehouse management	K-4

### Unit - I Introduction Warehousing

(9 Hours)

Introduction Warehousing – Basic Warehousing Decisions – Warehouse Operations – Types of Warehouses – Functions – Centralized & Decentralized – Storage Systems – Warehousing Cost Analysis – Warehouse Layout – Characteristics of Ideal Warehouse

### Unit - II Inventory Management

(9 Hours)

Inventory: Basic Concepts – Role in Supply Chain – Role in Competitive Strategy – Independent Demand Systems – Dependent Demand Systems – Functions – Types – Cost – Need for Inventory – Just in Time

### Unit - III Inventory Control

(9 Hours)

Inventory Control – ABC Inventory Control – Multi-Echelon Inventory Systems – Distribution Requirement Planning – Bull Whip Effect – Using WMS for Managing Warehousing Operations

### Unit - IV Materials Handling

(9 Hours)

Principles and Performance Measures of Material Handling Systems – Fundamentals of Material Handling – Various Types of Material Handling Equipment – Types of Conveyors – Refrigerated Warehouses- Cold Chain- Agri SCM

### Unit - V Modern Warehousing Methods

(9 Hours)

Modern Warehousing – Automated Storage & Retrieval Systems & their Operations – Bar Coding Technology & Applications in Logistics Industry – RFID Technology & Applications – Advantages of RFID

## References

Vinod.V.Sople, Logistics Management, Pearson Education, 2004.

Arnold, Introduction Materials Management, Pearson Education, 2009.

Frazelle, World Class Warehousing & Material Handling, Tata McGraw-Hill, 2008

Satish K. Kapoor and Purva Kansal, Basics of Distribution Management - A Logistical Approach, Prentice Hall, 2003

Satish K. Kapoor and Purva Kansal Marketing, Logistics - A Supply Chain Approach, Pearson Education, 2003

Semester	Course Code	Title of the Course	Hours	Credits
II	MSDL222	<b>SUPPLY CHAIN INVENTORY MANAGEMENT</b>	5	5

## Course Outcomes

S.NO	CO - Statement	Cognitive Level (K-Level)
CO - 1	Apply warehouse concepts, various inventory control techniques and application of inventory management in supply chain	K-3
CO - 2	Improve confident approach towards supply chain inventory issues and they can use different tools appropriately to solve the problems	K-6
CO - 3	Evaluate various tools and techniques in inventory management	K-5
CO - 4	Inspect the possibility of keeping extra stock, since the needs are predetermined, thus eliminating needless storage expenses.	K-4
CO - 5	Show various costs indulged with inventories like purchase cost, carrying a cost, storage cost, etc. and to keep material cost under control as they contribute to reducing the cost of production	K-2

## Unit I Introduction to Inventory Management

(9 Hours)

Inventory in SCM, Cash to cash cycle time, measure of inventory in terms of days, Inventory turnover ratio and its relationship with working capital, Review of models, Q-models and P-models Aggregation of Inventory, Cycle stock concepts, Ordering multiple items in a single order to reduce cycle stock

**Unit II Inventory Models****(9 Hours)**

Safety stock issues Safety stock with lead time and demand uncertainty (for Q-models), Short term discounting & Forward Buying, Periodic review models with safety stock, Comparison of P and Q Systems

**Unit III Inventory Management Strategies****(9 Hours)**

Single period models, Inventory management for fashion supply chains, Postponement strategies to reduce inventory, Examples of Fashion supply chains: NFL Reebok, ZARA and Sport Obermeyer Risk Pooling, Applications, Risk pooling in different forms-Substitution, Specialisation, Postponement and Information pooling

**Unit IV Inventory Optimization****(9 Hours)**

Distribution resource planning techniques, Inventory and transportation integration decisions, Vendor Managed Inventory, Product availability measures, Product fill rate, order fill rate, Cycle service level.

**Unit V Latest Trends In Inventory Management Systems****(9 Hours)**

Industry initiatives, efficient consumer Response and Quick response, CPFR and other industry Initiatives, Inventory reduction strategies, Managing inventory in Reverse Logistics and Remanufacturing situations , Best practices in Inventory Management in a Supply Chain

**References**

1. Sunil Chopra, Peter Meindl, Supply Chain Management: Strategy, Planning, and Operation, Pearson, 2010.
2. Janat Shah, Supply Chain Management, Pearson Education India, 2009
3. Supply chain management, Chandrasekaran, N., Oxford University Publications, 2010
4. Supply Chain Management for the 21<sup>st</sup> Century by B S SAHAY. Macmillan Education, 2001

Semester	Course Code	Title of the Course	Hours	Credits
II	MSDL223	<b>PURCHASE AND INVENTORY MANAGEMENT</b>	5	5

## Course Outcomes

S.NO	CO - Statement	Cognitive Level (K-Level)
CO - 1	Determine reasonably low prices for the best values obtainable, negotiating and executing all company commitments.	K-5
CO - 2	Plan to keep inventories as low as is consistent with maintaining production.	K-3
CO - 3	Measure and constantly monitor inventory losses due to damage, deterioration or outdated features	K-5
CO - 4	Analyzing the materials in storage, handling, packaging, shipping distributing and standardizing	K-4
CO - 5	Understanding the potential risks and developing innovative strategies to manage them is an important aspect of purchasing and supply management	K-2

### Unit I: Introduction of Purchase Management

(9 Hours)

Purchase policy- Rate and Running Contract – Subcontracting- Systems Contract – Stockless purchase –Buying seasonal items – Forward Buying – Hedging – Purchasing Activities – Indent Status – Purchase Order – Transportation – Incoming Inspection – Bill settlement –Documentation.

### Unit II: Price Management

(9 Hours)

Meaning of Right Price – Price Analysis – Determination of Right Price – Influencing Factors on Pricing – Classification of Pricing – Price Forecasting - Right Place – Purchase Budgets – Budgetary control – Need Identification Problems – Definition of lead time Elements- Cost Reduction and Lead time.

### Unit III: Buyers & Suppliers

(9 Hours)

Relevance of Good Supplier - Advantages of Good Relations –Prerequisites – Evaluation of Suppliers – The Buyers Role – Role of the Vendor –Relevance of Good Suppliers – Need for vendor evaluation – Goals of Vendor Rating – Advantages of Vendor Rating – Parameters of Vendor Rating.

### Unit IV: Material Management

(9 Hours)

Role of Material Management – Classes of Material – Materials and Profitability – Profit Center Concept – Material Objective – Centralized Purchasing-Decentralizing – Delegation of Powers – Definition of Material Planning – Bill of Material – Material Requirement Planning II.

**Unit V: Data Analysis****(9 Hours)**

Codification – Classification – Methodology–Requirement of codes – Coding Structure and Design –Advantages - International Codification – Cost and Consequences – Right Quantity – Economic Ordering Quantity – Derivations of EOQ.

**References**

1. Gopalakrishnan P, Purchasing and Materials management, Tata McGraw Hill, 2001.
2. J. M. Dewan and K.N. Sundarshan, Purchasing and Materials Management, Discovery Publishing Pvt. Ltd, 2006.