# ANDHRA UNIVERSITY

## DRAFT CURRICULUM FOR

**MBA (LOGISTICS & SUPPLY CHAIN MANAGEMENT)**

### I SEMESTER

<table>
<thead>
<tr>
<th>SL No</th>
<th>Subject</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>IA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>1</td>
<td>Management Concepts and Organisational Behaviour</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>Basics of Logistics and Supply Chain Management</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>Managerial Economics</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>Business Statistics and Data Analytics</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>Quantitative Techniques for Managers</td>
<td>40</td>
</tr>
<tr>
<td>6</td>
<td>Business Communication</td>
<td>40</td>
</tr>
</tbody>
</table>

### II SEMESTER

<table>
<thead>
<tr>
<th>SL No</th>
<th>Subject</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>IA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>1</td>
<td>Operations &amp; Green Supply Chain Management</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>Warehouse and Distribution Management</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>Inventory Management</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>Procurement, Storage &amp;Warehouse Management</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>Port and Airport Management for Logistics Management</td>
<td>40</td>
</tr>
<tr>
<td>6</td>
<td>Strategic Management</td>
<td>40</td>
</tr>
</tbody>
</table>
### III SEMESTER

<table>
<thead>
<tr>
<th>SL No</th>
<th>Subject</th>
<th>IA</th>
<th>TE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Supply Chain Planning</td>
<td>40</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Maritime Logistics</td>
<td>40</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Supply Chain Analytics</td>
<td>40</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>Multimodal Logistics</td>
<td>40</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>Procurement &amp; Vendor Management</td>
<td>40</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>Universal Human Values and Professional Ethics</td>
<td>40</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

### IV SEMESTER

<table>
<thead>
<tr>
<th>SL No</th>
<th>Subject</th>
<th>IA</th>
<th>TE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Emerging Technologies in Global Business Environment</td>
<td>40</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>e- Business and e- Logistics</td>
<td>40</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>International Logistics Management</td>
<td>40</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>Risk Management in Supply Chain and Logistics</td>
<td>40</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>Regulatory Compliance in Supply Chain and Logistics</td>
<td>40</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>Research Project and Dissertation</td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>Comprehensive Viva voce</td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>
SEMESTER- I

MANAGEMENT CONCEPTS AND ORGANISATIONAL BEHAVIOUR

Unit-I
**Fundamentals of Management & Planning**  Management practices from past to present, Different levels of management, Managerial skills and Managerial Functions, Case Studies

Objective of planning, Planning process, Types of planning, Types of plans, Management by Objective, Decision-making- types, process & techniques, Case Studies

Unit -II
**Organising & Staffing** - Types of organization, Organization structure and decentralization of authority, Meaning of staffing, Recruitment, selection & placement, Training & development.

Unit-III
**Directing & Controlling** - Principle of directing, Essence of coordination, Different control techniques, Management by exception. Case Studies.

Unit-IV
**Behavioural Studies**. Fundamentals of individual behaviour, Personality, types of personality, Personal effectiveness, meaning of Attitudes, Types, Components, attitude formation and attitude change. Meaning & Type of Group Behaviour, Interpersonal skills, Transactional Analysis, Johari Window

Unit -V
**Motivation**  Theory of Motivation: Maslow’s, Herzberg’s, McClelland, Contemporary theories of Motivation: Self Determination Theory, Self-Efficacy Theory, Vroom’s Expectancy Theory, Equity Theory, Reinforcement Theory, Meaning of Perception, process, behavioural applications of perception. Case Studies
Unit-VI

Leadership  What is leadership, types of leaders and leadership styles, traits and qualities of effective leader, trait theory, LSM – Leadership Situational Model, Team Building, Tuckman Model of Team Development.

Organizational Change  Meaning of organizational change approaches to managing organizational change, creating a culture for change, implementing the change, Kurt Lewin Model of change. Case Studies

Suggested References
4. Dr.Premvir Kapoor, Principles and Practices of Management, Khanna Publishing House, Delhi
9. Aswathappa K, —Organizational Behaviour (Text, Cases and Games) ll, Himalaya Publication
10. UdaiPareek, —Organizational Behaviour ll, Oxford University Press
BASICS OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Unit 1
Supply Chain Concepts: Objectives of a Supply Chain, Stages of Supply chain, Value Chain Process, Cycle view of Supply Chain Process, Key issues in SCM, logistics & SCM, Supply Chain Drivers and obstacles, Supply chain strategies, strategic fit, Best practices in SCM, Obstacles of streamlined SCM.

Unit 2
Logistics :Evolution, Objectives, Components and Functions of Logistics Management, Distribution related Issues and Challenges; Gaining competitive advantage through Logistics Management, Transportation-Functions, Costs, and Mode; Network and Decision, Containerization, Cross docking.

Unit 3
Supply Chain Performance: Bullwhip effect and reduction, Performance measurement: Dimension, Tools of performance measurement, SCOR Model. Demand chain management, Global Supply chain- Challenges in establishing Global Supply Chain, Factors that influences designing Global Supply Chain Network.

Unit 4
Warehousing: Concept and types, Warehousing strategy, Warehouse facility location & network design, Reverse logistics, Outsourcing- Nature and concept, Strategic decision to Outsourcing, Third party logistics(3PL), Fourth party logistics(4PL).

Supply Chain and CRM- Linkage, IT infrastructure used for Supply Chain and CRM, Functional components for CRM, Green supply chain management, Supply Chain sustainability.
**Suggested Readings:**

1. Chopra, Sunil, Meindl, Peter and Kalra, D. V.; Supply Chain Management: Strategy, Planning and Operation; Pearson Education

2. Altekar, Rahul V.; Supply Chain Management: Concepts and Cases;

3. Ballou, Ronald H.; Supply Chain Management; Pearson Education

4. Sahay, B.S.; Supply Chain Management; Macmillan


MANAGERIAL ECONOMICS

UNIT – I


UNIT –II


Supply Analysis; Law of Supply, Supply Elasticity; Analysis and its uses for managerial decision making.

Price of a Product under demand and supply forces . Case Studies

UNIT –III

Production and cost Analysis: Production concepts & analysis; Production function, Types of production function, Laws of production: Law of diminishing returns, Law of returns to scale.


UNIT –IV

UNIT – V
National Income; Concepts and various methods of its measurement, Circular flows in 2 sector, 3 sector, 4 sector economies, Inflation, types and causes, Business Cycle & its phases.

Suggested Readings
1. Managerial Economics, D.N.Dwived, Vikas Publication, 7th Ed
4. Managerial Economics, H.L Ahuja, S.Chand, 8th Ed
6. Sociology & Economics for Engineers, Dr.Premvir Kapoor, Khanna Publishing House

BUSINESS STATISTICS AND DATA ANALYTICS
Unit I : Descriptive Statistics
Meaning, Scope, types, functions and limitations of statistics, Measures of Central tendency – Mean, Median, Mode, Quartiles, Measures of Dispersion – Range, Inter quartile range, Mean deviation, Standard deviation, Variance, Coefficient of Variation, Skewness and Kurtosis.

**Unit II : Time Series & Index Number**

Time series analysis: Concept, Additive and Multiplicative models, Components of time series, Trend analysis: Least Square method - Linear and Non-Linear equations, Applications in business decision-making.

Index Numbers:- Meaning , Types of index numbers, uses of index numbers, Construction of Price, Quantity and Volume indices:- Fixed base and Chain base methods.

**Unit III: Correlation & Regression Analysis**

Correlation Analysis: Rank Method & Karl Pearson's Coefficient of Correlation and Properties of Correlation.

Regression Analysis: Fitting of a Regression Line and Interpretation of Results, Properties of Regression Coefficients and Relationship between Regression and Correlation.

**Unit IV: Probability Theory & Distribution**

Probability: Theory of Probability, Addition and Multiplication Law, Baye’s Theorem

Probability Theoretical Distributions: Concept and application of Binomial; Poisson and Normal distributions.

**Unit V : Hypothesis Testing & Business Analytics**

Hypothesis Testing: Null and Alternative Hypotheses; Type I and Type II errors; Testing of Hypothesis: Large Sample Tests, Small Sample test, (t, F, Z Test and Chi Square Test)

Concept of Business Analytics- Meaning types and application of Business Analytics, Use of Spread Sheet to analyze data-Descriptive analytics and Predictive analytics.

**Suggested Readings**
2. Chandrasekaran & Umaparvathi - Statistics for Managers, 1st edition, PHI Learning

QUANTITATIVE TECHNIQUES FOR MANAGERS
Unit I - Operations Research & Decision Making Environments


Unit II - Linear Programming Problem & Transportation Problem

*Linear programming:* Mathematical formulations of LP Models for product-mix problems; graphical and simplex method of solving LP problems; duality.

*Transportation problem:* Various methods of finding Initial basic feasible solution - North West Corner Method, Least Cost Method & VAM Method and optimal solution - Stepping Stone & MODI Method, Maximization Transportation Problem

Unit III - Assignment model & Game Theory

*Assignment model:* Hungarian Algorithm and its applications, Maximization Assignment Problem.

*Game Theory:* Concept of game; Two-person zero-sum game; Pure and Mixed Strategy Games; Saddle Point; Odds Method; Dominance Method and Graphical Method for solving Mixed Strategy Game.

Unit IV - Sequencing & Queuing Theory

Sequencing Problem: Johnsons Algorithm for n Jobs and Two machines, n Jobs and Three Machines, Two jobs and m - Machines Problems.

*Queuing Theory:* Characteristics of M/M/1 Queue model; Application of Poisson and Exponential distribution in estimating arrival rate and service rate; Applications of Queue model for better service to the customers.

Unit V - Replacement Problem & Project Management

Replacement Problem: Replacement of assets that deteriorate with time, replacement of assets which fail suddenly.

*Project Management:* Rules for drawing the network diagram, Applications of CPM and PERT techniques in Project planning and control; crashing of operations.

Suggested Readings
BUSINESS COMMUNICATION

UNIT I:
Introduction: Role of communication – defining and classifying communication – purpose of communication – process of communication – characteristics of successful communication –
importance of communication in management – communication structure in organization – communication in crisis barriers to communication. Case Studies

UNIT II:

UNIT III:

UNIT IV:

UNIT V:

II SEMESTER
OPERATIONS & GREEN SUPPLY CHAIN MANAGEMENT
UNIT –I Production Concepts:

UNIT –II Operations Concepts:
Services scenario in India, difference between product and service, characteristics of services, classification of services, product and service design, factors affecting service design, service designing process, service blueprinting, service capacity planning. Dimensions of quality in services, understanding service quality gap, measuring service quality using SERVQUAL model.

UNIT-III Material and Inventory Management:
Types of production planning, process of production planning and control (PPC) – routing, scheduling and loading. Master production schedule, aggregate production planning. Types of inventories, inventory control techniques- EOQ, ABC, VED, FSN, HML and SDE (Simple numerical problems on Inventory control techniques). Just-in-time (JIT) and KANBAN.

UNIT-IV Green Supply Chain Management:

UNIT-V Green Logistics

Suggested Readings:-
WAREHOUSE AND DISTRIBUTION MANAGEMENT
UNIT 1: Warehouse Management
Importance of Warehousing and Warehousing Functions, Types of Warehouses, Specialized Warehouse Services, Developing Warehouse Strategies, Establishing Warehouse Standards, Receiving and Stocking, Order Picking and Shipping, Sizing the Warehouse, Warehouse Layout, Stocking Inventory in Warehouse Locations, Warehouse Automation, Warehouse Management and Environmental Sustainability, Today’s Warehouse Challenges. Case Studies and Latest Updates.

UNIT 2: Warehouse Management Process

Unit 3: Warehouse Costs and Performance Management

Unit 4 The Distribution Management Environment

Unit 5: Various Modes of Transportation
Importance of Various Modes of Transportation - Rail, Road, Water, Air, Pipeline with their Characteristics and Cost Structure, The Carrier Selection Decision, Determinants of Carrier Selection, Legal Classification of Carriers, Role of Couriers as Carriers, Transportation Costs - Fixed, Variable, Joint and Common Costs, Product Related & Market Related Factors Influencing Transport Cost. Case Studies and Latest Updates

Suggested Readings

2. David Frederick Ross, Distribution Planning and Control Managing in the Era of Supply Chain Management (Springer)

3. David J. Bloomberg, Stephen LeMay & : Logistics, Prentice-Hall of India Pvt Ltd., Joe B.Hanna New Delhi,


5. Satish C. Ailawadi & Rakesh Singh : Logistics Management, Prentice-Hall of India Pvt Ltd., New Delhi

6. Donald Waters : Logistics. Palgrave Macmillan, New York,


INVENTORY MANAGEMENT
Unit 1: Frameworks for Inventory Management


Unit 2: Replenishment Systems for Inventory

Order Quantities When Demand Is Approximately Level, Assumptions Leading to the Basic EOQ, Derivation of the EOQ (Numerical Illustration), Sensitivity Analysis, Quantity Discounts (Numerical Illustration). Accounting for inflation, Price Established Independent of Ordering Policy & Price Set as a Fixed Fractions on Unit Variable Cost, Limits on order sizes-Maximum Time Supply or Capacity Restriction, Minimum Order Quantity

Unit 3: Inventory Items with Time-Varying Demand


Unit 4: Inventory Items with Probabilistic Demand

Some Important Issues and Terminology, Different Definitions of Stock Level, Backorders versus Lost Sales, Key Issues to Be Resolved by a Control System under Probabilistic Demand, The Importance of the Item: A, B, and C Classification, Continuous versus Periodic Review, The Form of the Inventory Policy, Types of Control Systems, Order-Point, Order-Quantity (s,Q) System, Order-Point, Order-Up-to-Level (s, S) System, Order-Up-to-Level (R, S) System

Unit 5: Coordinating Inventory Management in the Supply Chain

**Suggested Readings**


2. Robert A. Davis, Demand-Driven Inventory Optimization and Replenishment (Wiley-Wiley & SAS Business Series)

3. Max Mullar, Essentials of Inventory Management (AMACOM)

4. Nicolas Vendaput, Inventory Optimisations - Models and Simulation (De Gruyter)

5. Hanqin Zhang, Houmin Yan, and S. Prakash Sethi, Inventory and Supply Chain Management with Forecast Updates (Springer)
PROCUREMENT, STORAGE & WAREHOUSE MANAGEMENT

Unit 1: Framework of Procurement Management

Introduction to Sourcing, Sourcing v/s Procurement, purchasing: Purchasing Cycle, 8 R’s of Purchasing, Role of a Purchasing Manager, Risks associated with purchasing process and its mitigation, Placing Orders, Budgets and Expense Allocation, Establishing Concept and applications of Make or Buy Decision, Types and Methods of Sourcing in Retail, Centralized vs Decentralized Approaches, Single Sourcing vs Multiple Sourcing, Day-to-Day vs Long Term Sourcing, Case Studies and Latest Updates.

Unit 2: Processes in Procurements


Unit 3: Vendor Selection in Procurement


Unit 4: Aligning Inventory Objectives with Procurement

What are the objective of purchasing management at strategic in alignment of Material Management with Supply Chain, Role of purchasing in Supporting Inventory Objectives, Hedging vs. Forward Buying, Managing Price Fluctuation and Volatility in International Finance, Payment Modes, Matching Supply with Customer Demand, Managing Inward Logistics. Case Studies and Latest Updates.

Unit 5 Global Procurement Management

Suggested Readings


2. Chopra and Miendl, Supply Chain Management: Strategy, planning and operation, Pearson Books


4. B S Sahay, Emerging Issues in Supply Chain Management (McMillan)

5. Alan Harrison, Logistics Management and Strategy (Pearson)
Unit I Port Structure and Functions: Definition - Types and Layout of the Ports – Organisational structure-Fundamental observations. Main functions and features of ports: Infrastructure and connectivity Administrative functions - Operational functions. Main services: Services and facilities for ships - Administrative formalities - Cargo transfer - Services and facilities for cargo - Additional “added value” service- Ports and their stakeholders like PHO, Immigration, Ship agents, Stevedores, CHA

Unit II Port Operations: Berths and Terminals - Berth Facilities and Equipment - ship Operation – Pre shipment planning, the stowage plan and on-board stowage - cargo positioning and stowage on the terminal - Developments in cargo/container handling and terminal operation - Safety of cargo operations - Cargo security: Measuring and evaluating performance and productivity.

Unit III Port Development: Phases of port development - Growth in word trade - Changes in growth Development in terminal operation. Shipping technology and port: Ship knowledge Ship development and port development - Port time and ship speed - Other technical development affecting port.

UNIT IV Port Administration Ownership and Management Port ownership structure- Types of port ownership and administration – Organizations concerning ports - Boards governing the ports - Port management development Rise and fall of Ports - information technology in ports. Port ownership in Indian context: Acts governing the Ports in India - Port ownership structure in India. Port reform: Framework for port reform - Evolution of ports in a competitive world Alternative Port Management Structure and Ownership Models.

Suggested Readings


STRATEGIC MANAGEMENT

UNIT 1 Introduction: meaning nature, scope, and importance of strategy; Model of strategic management, Strategic Decision-Making Process. Corporate Governance: Composition of the board, Role and Responsibilities of the board of directors, Trends in corporate governance, Corporate Social Responsibility.


Suggested Readings:

1. Wheelen, L. Thomas and Hunger, David J.; Concepts in Strategic Management and Business Policy, Pearson Education,


4. David, Fred; Strategic Management: Concepts and Cases; PHI Learning.


STRATEGIC MANAGEMENT

UNIT 1

Introduction: meaning nature, scope, and importance of strategy; Model of strategic management, Strategic Decision-Making Process.

Corporate Governance: Composition of the board, Role and Responsibilities of the board of directors, Trends in corporate governance, Corporate Social Responsibility. Case Studies and Latest Updates.

UNIT 2


UNIT 3

Strategy Formulation: Situational Analysis using SWOT approach

Business Strategies: Competitive Strategy: - Cost Leadership, Differentiation & Focus, Cooperative Strategy: - Collusion & Strategic Alliances


Unit 4


Strategy implementation: Developing Programs, Budget and Procedures, Stages of Corporate Development, Organizational Life cycle, Organizational Structures: Matrix, Network & Modular/Cellular; Reengineering and Strategy implementation, Leadership and corporate culture, Case Studies and Latest Updates.
Unit 5

III SEMESTER
SUPPLY CHAIN PLANNING

Unit 1 Fundamentals of Supply Chain Planning

Unit 2: Supply Chain Strategies

Unit 3: The Agility and Lean Thinking in Supply Chain

Unit 4 Demand Management in SCM

Unit 5 Integrating the Supply Chain
Internal Integration - Function to Function, Intercompany Integration, Electronic Integration, Efficient Customer Response (ECR) in Supply Chain, Collaborative Planning, Forecasting and Replenishment, Overview of JIT and Quick Response, Enabling Sustainability in Supply Chain Strategy Case Studies and Latest Updates.
Suggested Readings

1. David Frederick Ross, Distribution Planning and Control- Managing in the Era of Supply Chain Management (Springer)

2. Supply Chain Planning and Control Product Documentation, SAP Business By Design

3. Edward Frazelle , Supply Chain Strategy- The Logistics of Supply Chain Management (TMH)

4. Sunil Chopra and Peter Meindle, Supply chain management (Pearson)


Unit 1 Foundation concepts of Maritime Logistics


Unit 2 Port Operations Management

Port Management Services, Numbers of Ports in India, Terminal Operators, Terminal Manager, Vessels Planning, Marine Terminal Operator (MTO) Agreements, Berths, Facilities and Equipment, Shipyards, Port Agents. Shipment Procedures, Role of Clearing and Forwarding Agent, Cargo management Containerization, Shipping Documents and Terms Used in Shipping, Quality and Pre-Shipment Inspection Case Studies and Latest Updates

Unit 3 Containerization

Introduction to Containerization and Intermodal Transport, Development of Intermodal Transport, Developing Liner Service Networks in Container Shipping, Shipping Routes, Network Patterns and Port Centrality. Strategy in Container Shipping, Container Line Logistics Activities. Tanker Shipping Logistics, Contractual Relationships & Cargo Transfer Procedures. Case Studies and Latest Updates

Unit 4 Port-Related Claims and Legal Liabilities


Unit 5 Operations and Voyage Estimation

Structure of Ship Owning and its Management, Voyage Planning - Hires and Freight, Commissions, Commercial Operations. Voyage Estimation:
Length of the Voyage, Commencings the Voyage Estimates, Tankers, Time Charter, Practical calculations. Case Studies and Latest Updates

**Suggested Readings**


SUPPLY CHAIN ANALYTICS

Unit 1: Importance of Analytics in SCM

Context of today’s Supply Chains (SC) analytics, Understanding the Supply Chain Analytics (SCA), Revisions of Basic of Supply Chain Management, Important of Analytics in Supply Chain, Relating operations Management with Supply Chain Concepts with SC Analytics, The Importance of Supply Chain Analytics in the Flows Involving Material, Money, Information and Ownership. Case Studies and Latest Updates

Unit 2: Framework of Supply Chain Analytics

Supply Chain Analytics Tools, Key Issues in Supply Chain Analytics, What Involves in Supply Chain Analytics, Concept of Descriptive Analytics in a Supply Chain, Bullwhip Effect in SCM, Decision Domains in Supply Chain Analytics, Overview of SAP Supply Chain Analytics modules and its Functionalities. Uses of Spreadsheet / Tableau in Supply chain Analytics

Unit 3: Modelling and Simulations for Supply Chain Analytics

Introduction to Modelling, Approaches for Optimization and Simulation, Modelling Software, Supply Chain Decisions that Requires Mathematical or Interpretative Modelling. Understanding of Data and its Role in Analytics of a Transportation Problem in a Supply Chain. Managerial Implications of the Results of Analytics. Spreadsheet Modelling for Supply Chain

UNIT 4: Predictive Modelling in Supply Chain

Forecasting for Supply Chain Planning and Management, Review of Multiple Regression and Stepwise Selection of Predictive Variables, Identification of Variables in a Forecasting Model, Exponential Smoothing Forecasting Models, Introduction to ARIMA Modelling, Data Driven Inventory Optimization. Uses of Spreadsheet for Statistical Analysis (Lab Work)

Unit 5: Foundation of Prescriptive Analytics in SCM

Network Planning in a Supply Chain, Importance of Network Planning, Design of Logistics Network using Heuristics/optimization, Concept of 3PL/4PL in a Supply Chain. Performance Optimisation in SCM, Information Technology in SCM. Case Study with Latest Updates
Suggested Readings

1. Sunil Chopra and Peter Meindle, Supply Chain Management (Pearson)


4. Rahul Saxena & Anand Srinivasan, Business Analytics

5. Lora M. Cecere, Supply Chain Metrics that Matter(Wiley)
MULTIMODAL LOGISTICS

Unit 1: Fundamentals of Rail, Road and Cargo Logistics


Unit 2: Introduction to Air Cargo


Unit 3: Air Cargo Management System

Introduction to Air Cargo: Aviation and airline terminology, IATA, Aircraft layout, Different Types of Aircraft, Aircraft Manufacturers, International Air Routes, National and International Airports, Various Codes at Airports & Consortium, Process Flow in Air Cargo. Latest Updates

Unit 4: Shipment Planning in Air Cargo


Unit 5: Air Freight and Shipment Handling

Suggested Readings

1. John J Liu, Supply Chain Management and Transport Logistics (Routledge)

2. John Walter wood, Airports; some elements of designs and future development

3. Simon Taylor, Air transport logistics (Hampton)


5. Peter S. Smith, Air freight: operations, marketing and economics (Faber)

6. Sung Chi-Chu, 4th Party Cyber Logistics for Air Cargo by (Kluwer)

7. Mark Wang, Accelerated Logistics (Santa Monica CA)
PROCUREMENT AND VENDORS MANAGEMENT

Unit 1: Framework of Procurement Management

Introduction to Sourcing, Sourcing v/s Procurement, Purchasing: Purchasing Cycle, 8 R’s of Purchasing, Role of a Purchasing Manager, Risks associated with purchasing process and its mitigation, Placing Orders, Budgets and Expense Allocation, Establishing Concept and applications of Make or Buy Decision, Types and Methods of Sourcing in Retail, Centralized vs Decentralized Approaches, Single Sourcing vs Multiple Sourcing, Day-to-Day vs Long Term Sourcing, Case Studies and Latest Updates.

Unit 2: Processes in Procurements


Unit 3 Vendor Selection in Procurement


Unit 4: Aligning Inventory Objectives with Procurement

What are the objective of purchasing management at strategic in alignment of Material Management with Supply Chain, Role of purchasing in Supporting Inventory Objectives, Hedging vs. Forward Buying, Managing Price Fluctuation and Volatility in International Finance, Payment Modes, Matching Supply with Customer Demand, Managing Inward Logistics. Case Studies and Latest Updates.

Unit 5 Global Procurement Management

Global Trade Barriers, Dealing with International Suppliers, UNO and GATT conventions, Legal, Socio-Cultural Issues in International Buying, Environmental Issues & Green Purchasing, Industry Best Practices,
Measurement of Sourcing Performance, Benchmarking in Retail Purchasing. **Case Studies and Latest Updates.**

**Suggested Readings**

2. Chopra and Miendl, Supply Chain Management: Strategy, planning and operation,
   Pearson Books
4. B S Sahay, Emerging Issues in Supply Chain Management (McMillan)
5. Alan Harrison, Logistics Management and Strategy (Pearson
UNIVERSAL HUMAN VALUES AND PROFESSIONAL ETHICS

UNIT-1: Course Introduction - Need, Basic Guidelines, Content and Process for Value Education

Understanding the need, basic guidelines, content and process for Value Education, Self-Exploration—what is it? - its content and process; ‘Natural Acceptance’ and Experiential Validation- as the mechanism for self-exploration, Continuous Happiness and Prosperity- A look at basic Human Aspirations, Right understanding, Relationship and Physical Facilities- the basic requirements for fulfillment of aspirations of every human being with their correct priority, Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario, Method to fulfill the above human aspirations: understanding and living in harmony at various levels.

UNIT-2: Understanding Harmony in the Human Being - Harmony in Myself (8 Hours)

Understanding human being as a co-existence of the sentient ‘I’ and the material ‘Body’, Understanding the needs of Self (‘I’) and ‘Body’ - Sukh and Suvidha, Understanding the Body as an instrument of ‘I’ (I being the doer, seer and enjoyer), Understanding the characteristics and activities of ‘I’ and harmony in ‘I’, Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity in detail, Programs to ensure Sanyam and Swasthya.

UNIT-3: Understanding Harmony in the Family and Society-Harmony in Human-Human Relationship

Understanding harmony in the Family- the basic unit of human interaction, Understanding values in human-human relationship; meaning of Nyaya and program for its fulfillment to ensure Ubhay-tripti; Trust (Vishwas) and Respect (Samman) as the foundational values of relationship, Understanding the meaning of Vishwas; Difference between intention and competence, Understanding the meaning of Samman, Difference between respect and differentiation; the other salient values in relationship, Understanding the harmony in the society (society being an extension of family): Samadhan, Samridhi, Abhay, Sah-astitva as comprehensive Human Goals, Visualizing a universal harmonious order in society- Undivided Society (Akhand Samaj), Universal Order (Sarvabhaum Vyawastha) - from family to world family!
UNIT-4: Understanding Harmony in the Nature and Existence - Whole existence as Coexistence

Understanding the harmony in the Nature, Interconnectedness and mutual fulfillment among the four orders of nature- recyclability and self-regulation in nature, Understanding Existence as Coexistence(Sahastitva) of mutually interacting units in all-pervasive space, Holistic perception of harmony at all levels of existence.

UNIT-5: Implications of the above Holistic Understanding of Harmony on Professional Ethics

Natural acceptance of human values, Definitiveness of Ethical Human Conduct, Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order, Competence in Professional Ethics: a) Ability to utilize the professional competence for augmenting universal human order, b) Ability to identify the scope and characteristics of people-friendly and eco-friendly production systems, technologies and management models, Case studies of typical holistic technologies, management models and production systems, Strategy for transition from the present state to Universal Human Order: a) At the level of individual: as socially and ecologically responsible engineers, technologists and managers, b) At the level of society: as mutually enriching institutions and organizations
Suggested Readings


IV SEMESTER

Emerging Technologies in Global Business Environment

Unit 1 Industry 4.0 and Digital Transformation


Unit 2: Emerging Technologies as Drivers of Global Business

Additive Manufacturing: Advantages and Disadvantages, new applications of additive manufacturing, impact of additive manufacturing on supply chain management, mass customization and the customer experience. Introduction of Neuroscience in Business. Internet of Things (IoT).

Unit 3: New Age Economies


Unit 4: Changing Natures of Global Politics


Unit 5: Social, Cultural and Global Challenges
Diversity of different generations in the workplace, issue of inter-generational equity. Migration – Political, Economic and Human Rights Perspective, the Migrant Crisis in the EU. Climate Change – Political Dimensions of Climate Change, Plight and Issue of Climate Refugees, Sustainable Development Goals.

Rising Inequality: Historical Context of Inequality and Social Unrest, Global Inequality, Social and Economic Reforms. Privacy in the Digital World – Complexity of Privacy Issues, Basics of GDPR (General Data Protection Regulation), Importance of Personal Data, Existential Threats – Five Types of Risks associated with AI, Need for New Age Ethics.

Suggested Readings

2. Narendra Jadhav, New Age technology an Industrial Revolution 4.0(Konark Publisher)
3. Pranjal Sharma, India Automated (McMillan)
6. Mark Van Rijmenam, The Organisation of Tomorrow: How AI, blockchain and analytics turn your business into a data organisation (Routledge)
7. Nitin Seth, Winning in Digital Age (Penguin)
8. Hu, Ming, Sharing Economy (Springer)
10. Cherunilam, F - International Trade and Export Management, Himalaya
11. Daniels - International Business (Pearson)
e- Business and e- Logistics

Unit 1 Drivers of Digital Business and Industry 4.0

Unit 2: Managing Digital Business Infrastructure
Technology and digital business infrastructure components, Focus on Web services, SaaS, cloudcomputing and service-oriented architecture (SOA), Benefits of web services or SaaS, Application programming interfaces (APIs), Challenges of deploying SaaS, Virtualisation, Service-oriented architecture (SOA), Selecting hosting providers, managing service quality when selecting Internet service and cloud hosting providers, Introduction to EDI.

Unit 3 E Business Environment

Unit 4 Digital Business Strategy

Unit 5 E Procurement and E Logistics
Suggested Readings


5. Efraim Turban, Jae Lee, David King, H. Michael Chung, “Electronic Commerce—AManagerial Perspective”, Addison-Wesley
INTERNATIONAL LOGISTICS MANAGEMENT

Unit 1 : Foundation Concepts in International Logistics

Unit 2 Export Sales Contract in International Logistics

Unit 3 Integrating International Logistics with Supply Chain
Trade-Offs in International Logistics, Multi-Modalism, Key Factors in a Transport Mode(s) & Trade-Off. Considerations of Speed, Frequency, Packing and Insurance in International Transportation. Warehousing & Benchmarking in Global Supply Chain Management, Supply Chain Cycle Time Reduction, Demand-Driven Supply Network in International Logistics. Case Studies and Latest Updates

Unit 4: International Transport Systems
Introduction to International Transport System- Basic Terms, Characteristics and Relations, Significance of Transportation Services, Characteristics of Modes of Transports - Road Transportation, Rail Transportation, Maritime Transport, Air Transport. Intermodal Transportation, Technical performance & Transport Economic Indicators, Maritime Routing Patterns, The Containerization of Commodities, Transcontinental Bridges. Case Studies and Latest Updates

Unit 5: Cost and Economy of International Logistics
Counts and Traffic Surveys, Cost /Benefit Analysis. **Case Studies and Latest Updates**

**Suggested Readings**

1. Alan E. Branch, Global Supply Chain Management and International Logistics (Routledge)


Risk Management in Supply Chain and Logistics

Unit 1: Introduction of Risks Management


Unit 2: Operational Strategy for Managing Supply Chain Risks

Introduction, Stockpile Inventory, Diversify Supply, Backup Supply, Manage Demand, Ambiguity in Risks. Decentralised Risks Management Strategy. Shared risks; Achieving an integrated approach; Identifying risks, Analysing and responding to risks; Problems with integrating SCRM; Levels of SCRM integration; In summary

Unit 3: Managing Supply Chain Disruption


Unit 4: Approaches to Risk Management


Unit 5: Creating Resilient Supply Chains

Concept of Resilient Supply Chain, Principles of Designing a Resilient Supply Chain, Physical Features of a Resilient Supply Chain, relationships within a Resilient Supply Chain, Risk Compensation and Business Continuity. Latest updates in Resilient Supply Chain.
Suggested Readings

1. Donald Water, Supply Chain Risks Management, (Kogan Pages)

2. Omra Khan & George Zsidins, Handbook for Supply Chain and Risks Management (Meri Pustak)

3. Yacob Khojasteh, Supply Chain Risk Management: Advanced Tools, Models, and Developments (Springer)


5. Lingxiu Dong, Onur Boyabatli, and Panos Kouvelis, Handbook of Integrated Risk Management in Global Supply Chains (Wiley)
REGULATORY COMPLIANCE IN SUPPLY CHAIN AND LOGISTICS

Unit 1: Introduction of Contracts and its Importance in Supply Chain

Unit 2: Preliminaries for Exports and Imports
Classifications and Types of Export and Import, Export Licensing, Selection of Export Product, Methods of Exporting, Pricing Quotations, Payment Terms, Letter of Credit, Liberalization of Imports, Negative List for Imports, Categories of Importers. Latest updates and Case Studies.

Unit 3: Documents for Shipping Logistics

Unit 4: Procedure and Regulatory Compliances in Export-Import

Unit 5: International Trade Policy and GST
Suggested Readings:

1. Ruwantissa Abeyratne, Law and Regulation of Air Cargo (Springer)


3. Ram Singh, Export and Import Management (Sage)

4. Thomas E. Johnson, Export Import Documentation and procedure (AMCOM)

5. Nabhi’s Board of Editors, How to EXPORT (Nabhi Publications)

6. S. D. Majumdar, GST: Explained for Common Man (Niyogi Book)


8. D C Kapoor, Export Management (Vikas Publishing House)

9. S. S. Gulshan, Mercantile Law (Excel Books)

10. Chawla, Garg & Sarin, Mercantile Law, (Kalyani Publishers)