



Savitribai Phule Pune University
School of Open Learning
(Distance Education Program)
Master of Business Administration
(M.B.A.-Distance)

Production And Operation Management
SEM-III, OSCM MJ-32

- 1. Overview of Production and Operations Management:** Introduction to Production and Operations Management: Definition, Concept, Significance and Functions, Difference between production and operations management. Evolution from production to operations management, Elements of operations management, customer demand, operation system/process, process capacity, changing philosophy of operations management, trends in operations management, Introduction to Planning, Design and engineering, production, maintenance, procurement, logistics, distribution management
- 2. Operations Processes: Process Characteristics in Operations:** Volume Variety and Flow. Types of Processes and Operations Systems - Continuous Flow system and intermittent flow systems, Process Product Matrix: Job Production, Batch Production, Assembly line and Continuous Flow.
- 3. Plant Location and Plant layout:** Factors affecting location planning of plants, technical, economical, commercial, social, political, government factors. Models for planning location, Introduction to layout, factors influencing layout of plants, types of layout, Process and Product Layout, Service System Design Matrix: Design of Service Systems, Service Blueprinting.

4. **Value Engineering And Value Analysis:** Concept of value engineering, value analysis, value buying, the process of value analysis, techniques, organizing the work of value analysis.
5. **Lean and Cellular Manufacturing:** Introduction of lean manufacturing, evolution of lean manufacturing, Pull production system and lean, principles of lean, advantages of lean manufacturing, Cellular manufacturing and inventory, physical resources requirement, manpower requirement, advantages and disadvantages of cellular manufacturing, applications of cellular manufacturing.



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World Class Manufacturing
SEM-III, OSCM -MJ-33

- 1. World class manufacturing and information age competition:** The Emergence of Information Age, Competition and Business Challenge, Operating Environment, Globalization and International Business, Global Competitiveness and Manufacturing Excellence, World Class Manufacturing and Information Age Competition, Manufacturing Challenges, Problems in Manufacturing Industry.
- 2. Gaining competitive edge through world class manufacturing:** Manufacturing excellence and competitiveness, Cutting Edge Technology Value Added Engineer in - Hall's Framework, Schonberger's Framework of WCM, Gunn's Model, Maskell's Model. Philosophy of World Class Manufacturing Evolution of WCM, Principles and Practices, Quality in WCM, Deming's & Shingo's Approach to Quality Management, Culmination of WCM.
- 3. System and Tools for World Class Manufacturing:** The Integration Imperative; Overview of Systems and Tools; Information Management Tools - Product and Process Design Tools, Bar Code Systems, Kanban: A Lean Production Tool, Statistical Quality Control (SQC), Material Processing and Handling Tools; Assessment of Manufacturing Systems and Tools.
- 4. World Class Manufacturing: Indian Scenario:** Competitive Indian Manufacturing, Manufacturing Performance and

Competitiveness - Indian Firms: Manufacturing Objectives and Strategy; Usage of Management Tools and Technologies; Manufacturing Management Practices; IT Infrastructure and Practices; Strategic Intent Framework; Breadth and Integration of IT Infrastructure.

- 5. Leading India towards World Class Manufacturing:** Business strategies and global competitiveness, Generic Manufacturing Strategies for Information Age; Planning Methodology and Issues in Strategic Planning of WCM; Performance Measurement - PO-P System, TOPP System and AMBITE System, Quality performance, The Future WCM Manufacturing Strategy: Futile Search for an Elusive Link, Manufacturing Strategic Intent Classification, Translating Intent into Action.



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Logistics And Distribution Management
SEM-III, OSCM -MJ-34

- 1. Logistics Management:** Paradigm shift from physical distribution, logistics definition, scope and function of logistics, logistics a system approach, logistics for business excellence, objectives of logistics, logistics solution, and value added logistical services, role of logistics in supply chain.
- 2. Logistics design for distribution channel:** Role of logistics in distribution channel, distribution channel structure, logistic requirements of channel members, channel members, channel strategy, logistics support to the distribution channel.
- 3. Logistics Outsourcing:** Catalysts for outsourcing trends, benefits of Logistics Outsourcing, third party logistics, fourth party logistics, selection of service provider, value added services, logistics service contract, critical issues, outsourcing value proposition.
- 4. E-Commerce Logistics & Reverse Logistics:** A new way of shop and pay, e-commerce- requirements on logistics, logistics as backbone of e-commerce, e-logistics structure and operation, logistics resource management, reverse logistics- a competitive tool, scope of reverse logistics, system design consideration.
- 5. Global Strategic Logistics:** Global logistics, operational factors, strategic issues, logistics competitive framework, logistics strategies across product life cycle, strategic logistics planning, logistics strategies, strategy implementation.



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Inventory and Stores Management
SEM-III, OSCM -MN-35

- 1. Inventory:** Concept of inventory, nature and importance of inventory, classification of inventory, functions of inventory, elements of inventory management: inventory concepts, pressures for low inventory, pressures for high inventory, role of inventory in operations, types of inventory – seasonal, decoupling, cyclic, pipeline, safety stock, inventory costs – carrying costs, ordering costs, shortage costs.
- 2. Inventory Control systems:** Need for inventory control, Continuous Review (Q) systems, Periodic Review (P) systems, ABC Classification system, Issues in the P and Q systems of inventory control.
- 3. Economic Order Quantity Models:** The Basic EOQ Model, Production Quantity Model, Computer Solution of EOQ model with MS Excel, Quantity Discounts, Computer Solution of Quantity Discounts model with MS Excel, Reorder Point, Safety Stocks, Service Level, Reorder point with variable demand, Computer Solution of Reorder point with MS Excel, Order quantity for periodic inventory system, Order quantity with variable demand,
- 4. Make or Buy Decisions:** Factors influencing Make or Buy Decisions-cost, quality, capacity core v/s noncore, management strategy. Evaluation of performance of Materials function: cost, delivery, quality, methodology of evaluation, Use of ratios - inventory ratios, inventory analysis like ABC, FSN: Fast slow, Non-moving,

HML-High Medium, Low, XYZ. Materials management in JIT environment

- 5. Stores management:** spare parts, need for Spare Parts Management, factors affecting spare part inventories, classification of spare parts, spare parts planning and control, obsolete spares and disposal, classification and codification, advantages, methods, standardization, objectives, advantages and disadvantages of standardization, simplification, variety reduction.



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Total Quality Management
SEM-IV, OSCM -MJ-42

- 1. Quality Concepts:** Defined, Quality Cost perspective, Cost of Quality, Quality Function, Spiral of Progress in quality, Little q and Big Q, Juran Trilogy, Internal and external quality perspective. Goods and service quality. Cost of poor quality, internal failure cost and external failure cost, appraisal cost, Prevention cost, Analysis of quality cost, hidden quality cost, Discovering the optimum, economic models of quality of Conformance-Zone of improvement, zone of high appraisal, zone of indifference.
- 2. Strategic Quality Management:** Companywide quality culture, Organizational vision, Mission and quality policy, formulation of quality goals, competitive benchmarking, steps in implementing Total Quality-Decide, Prepare, Start, Expand and Integrate. Quality Circle.
- 3. Quality Gurus:** Demings' 14-point philosophy, Juran, Crosby philosophy, Ishikawa, Taguchi, Feigenbaum. Comparison of quality philosophy.
- 4. QC Tools:** Problem Solving Methodology - Check list, Flow Chart, Tally charts and Histograms, Graphs, Pareto Analysis, Cause and Effect Diagram, Brainstorming, Scatter diagram and regression analysis. Quality Function Deployment - Introduction, Customer needs, Customer priorities and competitive comparisons and planned improvements
- 5. Statistical Quality Control:** Necessity and Importance of SQC, Process capability, Six Sigma quality, Process control, Process control

for attributes, p charts and c charts, Process control for variables, \bar{X} bar R chart, acceptance sampling, OC curves, Average Outgoing Quality Limit (AOQL), Sampling plans.

Quality Management Awards and frameworks; Malcolm Baldrige National quality award, Deming prize, ISO 9000-2000, ISO 27001, Ramakrishna Bajaj Awards, Tata Business Excellence Model (TBEM)



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Supply Chain Management
SEM-IV, OSCM -MJ-43

- 1. 21st-Century Supply Chains:** The Supply Chain Revolution, Generalized Supply Chain Model, Integrated Management & Collaboration, Enterprise Extension, Integrated Service Providers, Responsiveness, Anticipatory-Based Business Model, Response-Based Business Model, Postponement, Barriers and the Future, Financial Sophistication, Cash-to-Cash Conversion, Dwell Time Minimization, Cash Spin, Globalization, Issues in Supply Chain Management, Implementation Challenges, Social Challenges.
- 2. Lean Logistics & Customer Accommodation:** The Logistical Value Proposition, Service Benefits, Cost Minimization, Logistics Value Generation, The Work of Logistics, Order Processing, Inventory, Transportation, Warehousing, Materials Handling, and Packaging, Facility Network, Logistical Operations, Inventory Flow, Information Flow, Logistical Operating Arrangements, Logistical Synchronization, Customer-Focused Marketing, Customer Service.
- 3. Procurement and Manufacturing Strategies in Supply Chain:** The Quality Imperative, Dimensions of Product Quality, Total Quality Management, Quality Standards, Procurement, Procurement Perspectives, Procurement Strategies, Purchase Requirement Segmentation, E-Commerce and Procurement, Manufacturing, Manufacturing Perspectives, Manufacturing Strategy, Logistical Interfaces, Just-in-Time, Requirements Planning, Design for Logistics.
- 4. Operational Integration in Supply Chain:** Integration Creates Value, Systems Concept and Analysis, Logistical Integration Objectives, Responsiveness, Variance Reduction, Inventory Reduction, Shipment Consolidation, Quality, Life Cycle Support, Enterprise Integration, Internal Integration Barriers, Domestic Supply Chain

Integration, Supply Chain Competitiveness, Risk, Power, and Leadership.

- 5. Advanced Planning and Scheduling in Supply Chain:** Rationale for Advanced Planning and Scheduling, Planning Horizon Recognition, Supplychainvisibility, Simultaneous Resource Consideration, Resource Utilization, Supply Chain APS Applications, Demand Planning, Production Planning, Requirements Planning, Transportation Planning, APS System Design Overview, APS System Components, Collaborative Planning, Forecasting, and Replenishment, APS Benefits and Considerations, Benefits, Considerations.

constructing and using control charts, control charts for variable data, control charts for attributes.

- 5. Design and Implementation for Six Sigma:** DFSS concept, concept development, concept engineering, design development, quality function deployment, detailed design and analysis, design failure mode and effects analysis, reliability prediction in DFSS, design optimization and verification, design of experiments, principles of six sigma implementation, project management, organizational culture and change management, knowledge management.



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Purchasing & Materials Management
SEM-IV, OSCM -MN-45

- 1. Materials Planning:** role of materials management, materials activities, materials and profitability, profit centre concept, materials objectives, materials and user department, materials planning, concept and advantages, defining materials planning, influencing factors, material requirement planning.
- 2. Standardization and Materials Management:** relevance of standardization, definition of standard, specification, Indian standards, company standardization, techniques of standardization, value analysis and cost reduction, role of learning curve in materials management, learning factors, drawing the curve, interpretation of learning curve.
- 3. Purchasing Cycle:** Purchase policy, cash purchase, tender systems, rate and running contract, subcontracting, systems contracts, stockless purchase, blanket order, reciprocity, buying seasonal items, forward buying, hedging, purchasing activities, purchase order, chasing and follow-up, transportation of materials, incoming inspection, bill settlement, documentation.
- 4. Purchasing Negotiation & Vendor Rating:** Objectives of negotiation process, price factor, strategy and tactics, qualities of negotiator, process of negotiation, theory of bargaining, precautions in negotiation, need for vendor evaluation, advantages of vendor rating,

parameters of vendor rating, categorical plan, weighted point plan, cost-ratio method, forced decision matrix, quality rating system.

- 5. International Buying:** Import policy, classification of importers, objectives of control, preliminary formalities, source selection, licensing procedures, letter of credit, documentation, bill of lading, customer clearance, issues in imports.