

Stream/ Specialization : **Operations Management**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	BA5025	Logistics Management	PE	3	3	0	0	3
2.	BA5026	Materials Management	PE	3	3	0	0	3
3.	BA5027	Product Design	PE	3	3	0	0	3
4.	BA5028	Project Management	PE	3	3	0	0	3
5.	BA5029	Services Operations Management	PE	3	3	0	0	3
6.	BA5030	Supply Chain Management	PE	3	3	0	0	3

BA5025

LOGISTICS MANAGEMENT

L T P C

3 0 0 3

OBJECTIVE :

- To learn the need and importance of logistics in product flow.

UNIT I INTRODUCTION

9

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

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

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

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

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

TOTAL: 45 PERIODS

OUTCOME :

- To enable an efficient method of moving products with optimization of time and cost.

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, 5th Edition, 2007.

BA5026

MATERIALS MANAGEMENT

L T P C
3 0 0 3

OBJECTIVE :

- Understand how material management should be considered for profitability

UNIT I INTRODUCTION

9

Operating environment-aggregate planning-role, need, strategies, costs techniques, approaches-master scheduling-manufacturing planning and control system-manufacturing resource planning-enterprise resource planning-making the production plan

UNIT II MATERIALS PLANNING

9

Materials requirements planning-bill of materials-resource requirement planning-manufacturing resource planning-capacity management-scheduling orders-production activity control-codification.

UNIT III INVENTORY MANAGEMENT

9

Policy Decisions-objectives-control -Retail Discounting Model, Newsvendor Model; EOQ and EBQ models for uniform and variable demand With and without shortages -Quantity discount models. Probabilistic inventory models.

UNIT IV PURCHASING MANAGEMENT

9

Establishing specifications-selecting suppliers-price determination-forward buying-mixed buying strategy-price forecasting-buying seasonal commodities-purchasing under uncertainty-demand management-price forecasting-purchasing under uncertainty-purchasing of capital equipment-international purchasing

UNIT V WAREHOUSE MANAGEMENT

9

Warehousing functions – types - Stores management-stores systems and procedures-incoming materials control-stores accounting and stock verification-Obsolete, surplus and scrap-value analysis-material handling-transportation and traffic management -operational efficiency-productivity-cost effectiveness-performance measurement

TOTAL: 45 PERIODS

OUTCOME :

- Student gains knowledge on effective utilisation of materials in manufacturing and service organisation

REFERENCES :

1. J.R.Tony Arnold, Stephen N. Chapman, Lloyd M. Clive, Materials Management, Pearson, 2012.
2. P. Gopalakrishnan, Purchasing and Materials Management, Tata McGraw Hill, 2012
3. A.K.Chitale and R.C.Gupta, Materials Management, Text and Cases, PHI Learning, 2nd Edition, 2006

4. A.K.Datla, Materials Management, Procedure, Text and Cases, PHI Learning, 2nd Edition, 2006
5. Ajay K Garg, Production and Operations Management, Tata McGraw Hill , 2012
6. Ronald H. Ballou and Samir K. Srivastava, Business Logistics and Supply Chain Management, Pearson education, Fifth Edition
7. S. N. Chary, Production and Operations Management, Tata McGraw Hill , 2012

BA5027

PRODUCT DESIGN

L T P C
3 0 0 3

OBJECTIVE:

- Understand the application of structured methods to develop a product.

UNIT I INTRODUCTION 9
Defining Product, Types of products. Product development - characteristics, duration and cost, challenges. Development Process: Generic Process- Adapting to product types. Evaluation - decay curve – cost expenditure curve.

UNIT II PRODUCT PLANNING 9
Product Planning Process – Steps. Opportunity identification – breakdown structure- product development charter. Product Life Cycle. Technology Life Cycle - Understanding Customer Needs - Disruptive Technologies- Product Specification - Concept Generation - Activity- Steps- Techniques.

UNIT III PRODUCT CONCEPT 9
Concept Selection - Importance, Methodology, concept Screening, Concept Scoring. Concept Testing. Product Architecture- Definition, Modularity, implication, Establishment, Delayed Differentiation, Platform Planning.

UNIT IV INDUSTRIAL DESIGN AND DESIGN TOOLS 9
Industrial Design, Design for Manufacturing-Value Engineering-Ergonomics-Prototyping-Robust Design- Design for X-failure rate curve-product use testing-Collaborative Product development- Product development economics-scoring model- financial analysis.

UNIT V PATENTS 9
Defining Intellectual Property and Patents, Patent Searches and Application, Patent Ownership and Transfer, Patent Infringement, New Developments and International Patent Law.

TOTAL: 45 PERIODS

OUTCOME

- Student gains knowledge on how a product is designed based on the needs of a customer.

REFERENCES :

1. Karl T. Ulrich, Steven D. Eppinger, Anita Goyal Product Design and Development, Tata McGraw – Hill, Fourth Edition, reprint 2009.
2. Kenneth B.Kahn, New Product Planning, Sage, 2nd Edition 2011.
3. A.K. Chitale and R.C. Gupta, Product Design and Manufacturing, PHI, 2008.
4. Deborah E. Bouchoux, Intellectual Property Rights, Delmar, Cengage Learning, 2005.
5. Anil Mital. Anoop Desai, Anand Subramanian, Aashi Mital, Product Development, Elsevier, 2009.
6. Michael Grieves, Product Life Cycle Management, Tata McGraw Hill , 2006.
7. Kerber, Ronald L, Laseter, Timothy M., Strategic Product Creation, Tata-McGraw Hill, 2007.

BA5028

PROJECT MANAGEMENT

L T P C
3 0 0 3

OBJECTIVE:

- To learn the concepts of managing projects.

UNIT I INTRODUCTION TO PROJECT MANAGEMENT 9

Project Management - Definition -Goal - Lifecycles. Project Selection Methods. Project Portfolio Process – Project Formulation. Project Manager - Roles- Responsibilities and Selection - Project Teams.

UNIT II PLANNING AND BUDGETING 9

The Planning Process - Work Break down Structure - Role of Multidisciplinary teams. Budget the Project - Methods. Cost Estimating and Improvement. Budget uncertainty and risk management.

UNIT III SCHEDULING & RESOURCE ALLOCATION 9

PERT & CPM Networks - Crashing - Project Uncertainty and Risk Management - Simulation - Gantt Charts - Expediting a project - Resource loading and leveling. Allocating scarce resources - Goldratt's Critical Chain.

UNIT IV CONTROL AND COMPLETION 9

The Plan-Monitor-Control cycle - Data Collecting and reporting - Project Control - Designing the control system. Project Evaluation, Auditing and Termination.

UNIT V PROJECT ORGANISATION & CONFLICT MANAGEMENT 9

Formal Organisation Structure - Organisation Design - Types of project organizations. Conflict - Origin & Consequences. Managing conflict - Team methods for resolving conflict.

TOTAL: 45 PERIODS

OUTCOME:

- To apply project management principles in business situations to optimize resource utilization and time optimisation.

REFERENCES :

1. Clifford Gray and Erik Larson, Project Management, Tata McGraw Hill Edition, 6e,2014.
2. John M. Nicholas, Project Management for Business and Technology - Principles and Practice, Second Edition, Pearson Education,5th Edition 2016
3. Gido and Clements, Successful Project Management, sixth Edition, Cengage, 2015.
4. Harvey Maylor, Project Management, Fourth Edition, Pearson Education, 2010

BA5029

SERVICES OPERATIONS MANAGEMENT

L T P C
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OBJECTIVE:

- To help understand how service performance can be improved by studying services operations management

UNIT I INTRODUCTION 9

Services – Importance, role in economy, service sector – growth; Nature of services -Service classification , Service Package, distinctive characteristics , open-systems view; Service Strategy – Strategic service vision, competitive environment, generic strategies, winning customers; Role of information technology; stages in service firm competitiveness; Internet strategies - Environmental strategies.

UNIT II SERVICE DESIGN 9
New Service Development - Design elements - Service Blue-printing - process structure - generic approaches -Value to customer; Retail design strategies - store size - Network configuration ; Managing Service Experience -experience economy, key dimensions ; Vehicle Routing and Scheduling

UNIT III SERVICE QUALITY 9
Service Quality- Dimensions, Service Quality Gap Model; Measuring Service Quality -SERVQUAL - Walk-through Audit; Quality service by design - Service Recovery - Service Guarantees; Service Encounter - triad, creating service orientation, service profit chain; Front-office Back-office Interface - service decoupling.

UNIT IV SERVICE FACILITY 9
Services capes - behaviour - environmental dimensions - framework; Facility design - nature, objectives, process analysis - process flow diagram, process steps, simulation; Service facility layout; Service Facility Location - considerations, facility location techniques - metropolitan metric, Euclidean, centre of gravity, retail outlet location , location set covering problem

UNIT V MANAGING CAPACITY AND DEMAND 9
Managing Demand - strategies; Managing capacity - basic strategies, supply management tactics, operations planning and control; Yield management; Inventory Management in Services- Retail Discounting Model, Newsvendor Model; Managing Waiting Lines -Queuing systems, psychology of waiting; Managing for growth- expansion strategies, franchising , globalization.

TOTAL: 45 PERIODS

OUTCOME:

- To design and operate a service business using the concepts, tools and techniques of service operations management.

REFERENCES :

1. James A. Fitzsimmons, Service Management - Operations, Strategy, Information Technology, Tata McGraw-Hill - 7th Edition 2013.
2. Richard Metters, Kathryn King-Metters, Madeleine Pullman, Steve Walton Successful Service Operations Management, South-Western, Cengage Learning, 2nd Edition ,2012
3. Cengiz Haksever, Barry Render, Roberta S. Russell, Robert G. Murdick, Service Management and Operations, Pearson Education - Second Edition.
4. Robert Johnston, Graham Clark, Service Operations Management, Pearson Education, 2nd Edition, 2005.
5. Bill Hollins and Sadie Shinkins, Managing Service Operations, Sage, 2006
6. J.Nevan Wright and Peter Race, The management of service operations, Cengage, 2nd Edition, 2004

BA5030

SUPPLY CHAIN MANAGEMENT

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OBJECTIVE:

- To help understand the importance of and major decisions in supply chain management for gaining competitive advantage.

UNIT I INTRODUCTION 9
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

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

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

Managing supply chain cycle inventory. Uncertainty in the supply chain – Analyzing 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

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.

**TOTAL:
45
PERIODS**

OUTCOME:

- Ability to build and manage a competitive supply chain using strategies, models, techniques and information technology.

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, 5th 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.