



Master of Business Administration in Operations

Semester IV

1. Elective IV - Operations Research
2. Elective VII - Technology, Innovation & Production Management
3. Elective V- Production Planning and Control
4. Project Report
5. Project Viva-voce
6. Strategic Management
7. Elective VI - Supply Chain Management

Operations Research

Unit 1-

Model Building in OR: linear programming, Formulation, Graphical solutions– Simplex method – Big-M method, Duality and sensitivity analysis.

Unit 2-

Transportation and Assignment Problem: traveling salesmen problems, Solving the sequencing problems, brand switching problems.

Unit 3-

Queuing Models: deterministic and probabilistic models, Single server and multiple server model– Infinite population .

Unit 4-

Network Analysis : PERT & CPM, Determination off loats, Time- cost - Trade-off and Crashing of networks. Theory of games– Two persons– Zero- sum game .

Unit 5-

Decision Theory: Decision making under risk and uncertainty, decision trees. Use MS Excel solver for the above models.

References :

1. Quantitative Techniques in Management – N.D . Vohra
2. Operations Research – Wagner
3. Operations Research – Hamdy Taha
4. Theory and Problems of Operations Research – Richard Brouer
5. Mathematical Methods in Business – Barnett and Sieger
6. Operations Research – S .D. Sharma

Production Planning and Control

Unit - I

Introduction : Definition - Objectives of Production Planning and Control – Functions of production planning and control - Elements of production control - Types of production - Organization of production planning and control department – Internal organization of department.

Unit - II

Forecasting - Importance of forecasting - Types of forecasting, their uses – General principles of forecasting - Forecasting techniques - qualitative methods and quantitative methods.

Unit - III

Inventory management - Functions of inventories - relevant inventory costs – ABC analysis - VED analysis - EOQ model - Inventory control systems – P-Systems and Q-Systems -

Unit - IV

Introduction to MRP & ERP, LOB (Line of Balance), JIT inventory, and Japanese concepts.

Unit - V

Routing - Definition - Routing procedure -Route sheets - Bill of material – Factors affecting routing procedure. Schedule -definition - Difference with loading

Unit – VI

Scheduling Policies - Techniques, Standard scheduling methods,

Unit - VII

Line Balancing, Aggregate planning, Chase planning, Expediting, controlling aspects.

UNIT - VIII

Dispatching - Activities of dispatcher - Dispatching procedure - followup – definition - Reason for existence of functions - types of followup, applications of computer in production planning and control.

References :

1. Elements of Production Planning and Control / Samuel Eilon.
2. Modern Production / Operations Management / Baffa & Rakesh Sarin.
3. Operations Management - S.N. Chary.
4. Inventory Control Theory and Practice / Martin K. Starr and David W. Miller.
5. Reliability [Engineering](#) & Quality Engineering by Dr. C. Nadha Muni Reddy and Dr. K. Vijaya Kumar Reddy, Galgotia Publications, Pvt., Limited.
6. Production Control A Quantitative Approach / John E. Biegel.
7. Production Control / Moore.
8. Operations Management / Joseph Monks.

Strategic Management

Unit 1-

Overview of strategic management: origin of strategy, strategy vs structure, elements of business strategies, Strategic Management process.

Unit 2-

Environmental Analysis: Strategically relevant components of internal and external environment, Industry and competitive analysis, analysis of resources and competitive capabilities, environmental scanning techniques.

Unit 3-

Establishing organizational direction– developing strategic vision, mission and setting objectives. Strategic intent and the concept of strategic pyramid, corporate ethics and social responsibility.

Unit 4-

Generic competitive strategies– stability, expansion, retrenchment, conglomerate and their variants. Strategic and competitive advantage, new business models for global and internet economy, Strategy clusters and models relating to portfolio analysis .

Unit 5-

Strategy implementation– building core competencies and competitive capabilities, developing policies and procedures for implementation. Designing and installing supporting and rewarding systems. Evaluating and monitoring implementation.

Suggested Readings-

1. Strategy and Structure – Alfred C .Chandler
2. Strategic Management – Alex Miller and Irwin
3. Competitive Advantages: Creating and Sustaining, Superior Performance– Michael E .Porter
4. Competing for the future – Prahlad and Hammel
5. The Future of Competition– Prahlad and Venkataraman
6. Crafting and executing Strategy – Aurthor A . Thompson and others
7. The Art of Strategy– Avinash K. Dixit and Barry J. Nalebuff

Supply Chain Management

Unit 1-

Introduction to Supply Chain Management: concept, Objectives and function of SCM , conceptual frame work of SCM, supply chain strategy , operating model for supply chain . Managing the External and internal supply chain .

Unit 2-

Global Supply Chain Management: EDI , Problems of complexity confronting supply chain Management, Reverse Supply Chain . Value chain and value delivery systems for SCM . Organization Design and Management of supply chain .

Unit 3-

Sourcing : sourcing of material , Global sourcing - issues , Problems .Group Purchasing, Inventory Management in Supply chain : Role and importance of inventory in SC , Inventory policies, JIT , VMI . Role of Stores management in SC , inventory as an element of customer service .

Unit 4-

Strategic Issues in Supply Chains : lean Manufacturing , Strategic Partnerships,Alliances, and Collaborative advantage.Strategic relationships in – logistics, Handling systems and equipment , Stores management. Best practice and Benchmarking, Re -engineering of supply chain .

Unit 5-

Retailing and supply chain Interface : retail supply chain management ,Transportation and inventory in retail SC, Channel design and management , Role of Packaging and Repackaging in Retail business, Customer led business, Customer focus in Supply Chain , Complaint Handling , developing customer service strategy , RFID and Barcoding .

Suggested Readings :

1. Mohanty, R. P and Deshmukh, S.G , 2005,. Supply Chain Management
2. Theory and practices, Biztantra .
3. Sunil Chopra & Meindl Peter , 2003, Supply Chain Management strategy , planning and operation , 3rd Edition , Pearson Education/PHI .
4. Altekar , V. Rahul , 2005, Supply Chain Management , PHI .

Technology, Innovation and New Product Management

Unit 1-

Introduction– Importance of Technological Innovation, Sources of Innovation, Types and Patterns of Innovation

Unit 2-

Standard Battles and Design Dominance, Timing of Entry.

Unit 3-

Defining The Organization's Strategic Direction

Unit 4-

Choosing Innovation Projects, Collaboration Strategies

Unit 5-

Protecting Innovation, Organizing for Innovation.

Unit 6-

Managing New Product Development Teams, Crafting a Deployment Strategy.

Suggested Readings-

1. Strategic Management of Technological Innovation 2nd Edition, TMH