



# **Master of Business Administration in Operations**

## **Semester III**

1. Elective - I - Decision Models and Optimization
2. Entrepreneurship
3. Elective - II - Operations Strategy
4. Project Management
5. Project Work Diary
6. Summer Internship Report
7. Elective - III - Total Quality Management

## **Decision Models and Optimization**

### **Unit 1-**

Model building for business problems. Linear programming model formulation and graphical solution. Analysis of special linear programming solutions

### **Unit 2-**

Linear programming applications and their computer solution

### **Unit 3-**

The Simplex method for solving linear programming

### **Unit 4-**

Duality and sensitivity analysis in linear programming, including graphical sensitivity analysis, simplex-based sensitivity analysis, and computer sensitivity analysis

### **Unit 5-**

Goal programming and integer programming

### **Unit 6-**

Shortest path problems (also briefly covering dynamic programming framework and principles)

### **Unit 7-**

Decision analysis and decision tree

### **Suggested Readings-**

1. Quantitative Techniques, C.R. Kothari.

## **Entrepreneurship**

1. Foundations of Entrepreneurship : nature of Entrepreneurship, social & cultural factors in nurturing entrepreneurship. Institutional support for promoting entrepreneurship in India, role of Universities & Colleges, CSIR labs . Case study of incubation.
2. Business Planning: from idea generation to preparation of detailed business plans. Exercises in preparation of business plans .
3. Venture Capital: valuing and financing a venture, stages of venture development and financing , venture capital firms ( VC ' s) venture expansion strategies.
4. Rural & social entrepreneurship: potential for entrepreneurship in rural India, SHGs, micro credit etc. , Case studies of rural & social entrepreneurship in India .
5. Entrepreneurs in India: family entrepreneurs, women entrepreneurs.

### **References :**

1. Entrepreneurship – Prof. T.V. Rao
2. Entrepreneurship – Hisrich & Peter
3. Entrepreneurship- Mathew J Manimala

## **Operations Strategy**

### **Unit 1-**

Introduction to Operations Management: role of Operations Management in total management System- Interface between the operation systems and systems of other functional areas. Production Planning and Control: Basic functions of Production Planning and Control, Production Cycle- characteristics of process technologies.

### **Unit 2**

Control of production operations: plant Capacity and Line Balancing. Plant layout- different types of layouts. Location and the factors influencing location. Maintenance Management: Objectives –Failure Concept, Reliability, Preventive and Breakdown maintenance, Replacement policies.

### **Unit 3**

Strategy & Operations: a frame work for operations strategy. Trade offs, productivity & competition. Processing Network Strategies – Capacity and real asset investment, Capacity Timing and Flexibility Risk Management and Operational Hedging.

### **Unit 4**

Supplier & Customer Strategies: outsourcing vs. Integration, Purchasing Supply Management, Designing contracts & pricing; Mass customized service, Timely service & incentive mgt, Revenue management.

### **Unit 5**

Learning & Growth Strategies: global standardization/ automation, Employee competencies & culture, Learning & process improvement, competing through learning and innovations.

### **Reference :**

1. Operations Management, Stevenson J. Wi lliam , 2007, 9th Edition, T MH.
2. Operations Management strategy and analysis, Lee J. krajewski and Larry P.Ritzman, 2007, 9<sup>th</sup> Edition, Pearson.
3. Operations Strategy by Slack and Lewis. Prentice Hall, 2003.
4. Manufacturing Strategy by Hill. Irwin McGraw-Hill, 2000.
5. Manufacturing Strategy: How to formulate and implement a winning plan by Miltenburg. Productivity Press, 1995.
6. Restoring our competitive edge: competing through manufacturing by Hayes and Wheelwright. John Wiley & Sons, 1984.
7. Operations Strategy by David Garvin. Prentice Hall, 1992
8. Balanced Sourcing by Laseter. Jossey-Bass Publishers, 1998.

## **Project Management**

1. Project Management: concepts & key terms, evolution of integrated project management system, aligning projects with organization strategy , effective project portfolio management system, project life cycle, feasibilities of projects-different forms of project contracting.
2. Project Scope Management: defining Project scope , creating work break down structure (WBS) , project roll up , process break down structure , responsibility matrix .
3. Project Scheduling: network models, PERT & CPM using softwares , measuring risk.
4. Project Risk Management : contingency resources, reducing project duration .
5. Project Team Management : building high -performance project teams, managing virtual project teams, project control process. Performance measurement and evaluation , project quality, planning, quality assurance, quality audit, project closure, post completion audit .

### **References:**

1. Project Management by Clifford Gray and Larson.
2. The practice and theory of project management creating value through change – Newton, Richard – 2009, Hampshire, Palgrave Pub.
3. Effective project Management– Clements, James P & Gido Jack – 2006, New Delhi, Cengage Learning.
4. Project Management: Amanagerial approach – Meredith, Jack . R & Mantel Samuel.J – 2006 , New Delhi, John Wiley & Sons.

## **Total Quality Management**

### **Unit 1-**

Introduction to Total Quality Management- Defining Total Quality Management, Basic Approaches of Total Quality Management, Gurus of Total Quality Management, TQM Framework, Awareness about the Improved Quality, Historical Review, Obstacles in Implementing TQM, Benefits of TQM.

### **Unit 2-**

Leadership and Total Quality Management- Defining Leadership, Characteristics of Quality Leaders, Leadership Concepts, The Seven Habits of Highly Effective People, Ethics and Quality, Deming Philosophy, Role of Leaders in TQM, Implementation, Quality Control, Core Values, Concepts and Framework, Strategic Planning and Communication, Decision Making.

### **Unit 3-**

Customer Satisfaction and Employee Involvement- Overview of Customer Satisfaction, Defining Customer, Customer Perception of Quality and Feedback from Customer, Effectively using Customer Complaints, Service Quality, Transforming Needs into Requirement of Customers and Importance of Customer Retention, Motivational Theories, Empowerment, Teams and their Effectiveness, Rewards, Recognition and Performance Appraisal, Union and Employee Involvement, Benefits of Employee Involvement.

### **Unit 4-**

Continuous Process Improvement and Performance Measures- Perfection through Continuous Improving Process, Process, The Juran Approach to Continuous Improvement Process, Improvement Strategies, Types of Problems, Problem Solving Method, Objectives of Performance Measures, Appropriate Strategy, Presentation of Performance Measures, Quality Costs, Malcolm Baldrige National Quality Award.

### **Unit 5-**

Benchmarking- Concept of Benchmarking, Importance of Benchmarking, Definition of Benchmarking, Important Reasons of Benchmarking, Process of Benchmarking, Deciding What to Benchmark, Benchmark Planning, Actions to Close the Gap between Benchmark, Pitfalls and Criticisms of Benchmarking.

### **Unit 6-**

Quality Management System- ISO, Benefits of ISO Registration, ISO 9000 Series of Standards, ISO 9001 Requirements, Implementation of Quality Management System (ISO), Documentation, Internal Audits, Registration.

### **Unit 7-**

Environmental Management System- Introduction to Environmental Management Standards, ISO 14000 Series Standards, Concept of ISO 14001, Requirements of ISO 14001, Benefits of Environmental Management Standard, Integrating ISO 14000 with ISO 9000, Relationship of Standards with Health and Safety.

### **Unit 8-**

Quality Function Deployment and Quality by Design- Concept of Quality Function Deployment, Role of Team in Quality Function Deployment, Benefits of Quality Function Deployment, Voice of the Customer, Process of Information by Organization, House of Quality, Building a House of Quality, Quality Function Deployment Process, Concept of Quality by Design, Rationale of Implementing Quality by Design, Benefits of Quality by Design, Communication Models, Implementation of Quality by Design, Tools Used for Implementing Quality by Design.

### **Unit 9-**

Management Tools and Statistical Process Control- Introduction of Management Tools and their Importance, Forced Field Analysis, Nominal Group Technique, Affinity Diagram, Tree Diagram, Matrix Diagram, Process Design Program Chart, Activity Network Diagram, Just in Time and Just in Case, Concept of Statistical Process Control, Pareto Diagram, Process Flow Diagram, Cause and Effect Diagram, Check Sheets, Histogram, Control Charts, Scatter Diagram.

**Suggested Readings:**

1. Total Quality Management by Dale H. Besterfield, Carol Besterfield- Michna.