| Technology & Operational Strategy | | | |
|---|---|---|---|
| Course Code | 20MBA302 | CIE Marks | 40 |
| Teaching Hours/Week (L:T:P) | 3:0:2 | SEE Marks | 60 |
| Credits | 04 | Exam Hours | 03 |

**Course Objectives**

1. To acquaint the student with the basic management principles with respect to production and operations management.
2. To Familiar the student with different types of Production Systems.
3. To explain the students regarding various techniques used in Operations Management.

**Module-1 Introduction to Production and Operation Management (POM)** **7 hours**

Introduction Operations Management: Meaning, Definition, Scope and Functions. Difference Between Production and Operations Management. Management Guru's and their Contribution. The Roles and Functions of Operations Manager. Industry 4.0; Productions and Operations Management in Indian Context.

**Module -2 Process Management Mapping** **9 hours**

Process Mapping, Process Flow charts, Ishikawa Diagrams, Fishbone Diagram and Cause and Effect Relationship, 5M, 8P, and 4S Systems, Theory Z Approach.

**Module -3 Lean Manufacturing** **9 hours**

Concept of Lean Manufacturing; meaning of lean manufacturing; History of Lean Operations, Types of Waste, "5S" Technique of Eliminating the Waste, Lean Operations in the service sector, Role of Leadership, Lean Operations and Just In Time(JIT).

**Module -4 Production System** **9 hours**

Production System: Meaning, Types- Batch and Continuous Production, TPS: Introduction, Overview of Toyota Production Systems – Focused Areas, Techniques: 5S, JIT, JIDOKA, KANBAN, KAIZEN, POKAYOKE, Toyota Production Systems.

**Module -5 Total Quality Management(TQM)** **9 Hours**

Evolution of quality; Concept, Meaning and Features of TQM, Eight building blocks of TQM; TQM tools. Benchmarking: Concepts, Meaning, Benefits, Elements, Reasons for benchmarking, Process of benchmarking, FMEA; Quality Function Deployment (QFD) – House of Quality, QFD Process, Benefits, Taguchi Quality Loss Function, Quality Circles. Total Productive Maintenance (TPM) – Concept and need.

**Module-6 Quality Systems** **7 Hours**

**ISO**: ISO role; Functions of ISO, Quality System Family Series ISO 9000; ISO 14000; ISO21000.
Six Sigma: Features of Six Sigma, Goals of Six Sigma, DMAIC, Six Sigma implementation.
Supply Chain and Operations: Supply Chain "KEIRETSU", Core Competency, Relationship of Operations and Supply Chain; Relationship of Purchasing and Supply Chain; Sources, Service Quality and Supply Chain.

**Course Outcomes:**

At the end of the course the student will be able to:

1. Acquire the knowledge about the concepts of production and operation management
2. Demonstrate the basic concepts of process mapping
3. Evaluate the importance of Lean Manufacturing
4. Develop strategies of Total quality management
5. Understand the roles of ISO standards and production system

**Practical Component:**

- Students should understand process management
- Students to visit an organization and study the quality management system
- Students has to understand production system
- Study the role of leader in operation management and prepare a Report
- Students need to understand the practicality of the ISO standards

**CO-PO MAPPING**

| CO | PO | | | | |
|---|---|---|---|---|---|
| | PO1 | PO2 | PO3 | PO4 | PO5 |
| CO1 | X | | | | |
| CO2 | X | | | X | |
| CO3 | X | | | X | |
| CO4 | X | | X | X | X |
| CO5 | X | | X | | X |

**Question paper pattern:**

The SEE question paper will be set for 100 marks and the marks scored will be proportionately reduced to 60.

- The question paper will have 8 full questions carrying equal marks.
- Each full question is for 20 marks.
- Each full question will have sub question covering all the topics under a Module.
- The students will have to answer five full questions; selecting four full question from question number one to seven and question number eight is compulsory.
- 100 percent theory in the SEE.

**Textbooks**

| Sl No | Title of the book | Name of the Author/s | Publisher Name | Edition and year |
|---|---|---|---|---|
| 1 | Production and Operations Management | S. N. Chari. | Mc Graw Hill. | 6/e |
| 2 | Operations Management Theory and Practical | B. Mahadevan | Pearson. | 3/e |
| 3 | Operations Management | Jay Heizer Barry Render, Chuck Munson, Amit Sachan | Pearson. | 12/e |
| 4 | Production and Operations Management | R. Panneerselvam. | PHI | 3/e |

**Reference Books**

| | | | | |
|---|---|---|---|---|
| 1 | The Goal: Process of Improvement | Eliyahu M. Goldratt | North River Press | 3/e |
| 2 | The Toyota Way | Jeffery Liker. | | |

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