

**Course Objective:** *The aim of this course is to familiarise students with production planning and control, plant location decisions, & quality management techniques with reference to manufacturing and service organizations.*

**Unit-I Production and Operations Management-** an overview; Nature and scope of Production/ Operations Management; Historical perspective of Operations Management; Operations as a System:- Continuous and Intermittent production system, flow, batch and job shop type of production; Operations strategy and elements of operations strategy; Facility location: Factors affecting plant location, Brown and Gibson Model of plant location

**Unit-II Manufacturing systems and layouts:** Product, Process and cellular layouts, layout planning and Analysis; Production Process Planning and Design: factors affecting process design; Concept of Line Balancing; Production Planning and Control – An overview; types of Production Planning and Control; Aggregate planning:- Concept, strategies and costs

**Unit-III Master Production Scheduling (MPS):** objectives and procedure for developing master production schedule; Materials Management: An overview; Basic concepts of Material Handling; Material Planning and Inventory Control; Inventory Control: Costs and objectives; Inventory control techniques ; ABC Analysis; Just in Time(JIT); Materials Requirement Planning (MRP); Economic Order Quantity Model.

**Unit-IV Quality Management and Quality Assurance:** Statistical process control–Control Charts for Attributes and Variables; Acceptance sampling: - Concept and significance; Total Quality Management (TQM) ; ISO-9000- Concept and Significance; Value Engineering:- Basic Concepts; Maintenance Management – Preventive and Breakdown Maintenance; Purchase Management and Purchasing Procedure.

**SUGGESTED READINGS:**

1. Adam, E.E. & Ebert, R.J. Production and Operations Management. New Delhi, Prentice Hall of India.
2. Kanishka bedi, Production and operations management, Oxford- (Latest edition)
3. Buffa, E.S. Modern production management, New York, John Wiley
4. Chary, S.N. Production and Operations Management, New Delhi, Tata McGraw Hill, 1989