

PRODUCTION PLANNING AND INVENTORY CONTROL

Generalised model of a production system, Different kinds of production systems, mass, batch job and cellular production

Layout: Optimisation in Product and Process layout; FMS; Manufacturing Strategies

Demand forecasting: Moving Average and Exponential Smoothing methods, Multiple regression method, Error in forecasting

Decisions in the life cycle of a production system, Evaluation of investments in new product and services, risk analysis using decision trees, product mix decisions

Aggregate planning, Operation planning and control, Scheduling, Comparison of dispatch rules, Johnson rule

Inventory control: EOQ and EBQ, EOQ Sensitivity, Backordering, Determination of safety stock, P and Q System, Joint cycle for multiple products

Materials Requirements Planning (MRP): Independent and dependent items, Master production schedule, MRP Inputs and outputs, Bill of Material, MRP Computation, EOQ-MRP comparison, MRP Types, Capacity planning and control, JIT in production planning and planning

Books:

1. *Manufacturing Planning and Control*, Vollman, Berry, Whybark & Jacobs, TMH
2. *Production Planning and Inventory Control*, Narasimhan S L, Mcleavey D W, Billington P J, PHI