

(12) Inventory Management

Unit 1

Inventory Management: Inventory concept; need for inventory; types of inventory, functions, use; Dependent and Independent Demand, Responsibility for inventory management.

Unit II

Strategic Inventory Management: Objectives and Importance of the inventory management function in reference to Profitability, Strategy, customer satisfaction and Competitive Advantage.

Unit III

Inventory Control Techniques: Inventory classification and its use in controlling inventory, Setup time and inventory control, safety stock determination considering service level. Strategies to increase Inventory Turns. Reduce throughput time, Reduce WIP, eliminate waste, and reduce inventory level in service and manufacturing organizations.

Unit IV

Inventory Models: Inventory models – Fixed Order Versus Fixed Interval systems – Developing Special Quantity Discount Models – Inventory Model for Manufactured Items – Economic Lot Size when Stock Replenishment is instantaneous – Non-instantaneous Replenishment Models – Inventory Models with uncertainty – Probabilistic Inventory Models – Models with Service Levels and Safety Stock.

Unit V

Material Requirement Planning Systems (MRP): Meaning, purpose and advantage of MRP, Data Requirements and Management – Files and Database Updating Inventory Records – Bill of Materials, types of BOM, Modular BOM, Master Production Schedules - meaning, objectives process, Managing MPS inventory records, lot sizing, process of MRP, and output of MRP. Introduction to MRP II systems. Using Distribution Resource Planning to manage inventories in multiple locations.