### Chapter 12

 Use of Information Technology in Inventory Management





## Integrated Management Information System for MM

- Efficiency of organization functioning depends on continuous process of information flow which achieved using integrated management information system
- Integrates Forecasting, Materials Planning, Purchasing, Warehousing, Inventory Management



## Inter-related activities in Materials Management

- Forecasting
- Materials Planning
- Purchasing
- Warehousing
- Inventory Management



### Aspects of Computer Application in Purchasing

- Creation of supplier data base
- Sourcing evaluation
- Supplier performance evaluation
- Supplier performance history
- Maintenance of product specification
- Purchase order release
- Order status
- Purchase order follow up
- Analyzing price cost data
- Payment to supplier
- Invoices
- Order acknowledgement



#### Computer Applications involved in Inventory Control

- Periodic valuation of inventory
- Inventory status and stores ledger
- Exception reports of high / low stocks and re-order level
- ABC analysis
- FSN Analysis
- XYZ Analysis
- MRP-I Output Reports
- MRP-II Output Reports
- WIP Inventory Status
- Finished Goods Inventory Status



### Objective of Integrated Management Information System

- Accuracy in reporting demand and inventory
- Ensuring fast response to changes in environment such as changes either in supply or price of materials, changes in customer taste and so on
- Measuring performance of functions such as purchasing, sourcing, vendor rating and inventory control



### Exceptional Reports obtained for Managerial Control

- Items for which consumption exceeds the norms
- Items short supplied
- Items for which price is anticipated to increase
- Items out of stock
- Items exceeding maximum stock levels
- Obsolete items / Non-Moving Items



### Limitations of Computer Applications in MM

- Need for a disciplined database for successful operations of the computer system
- Need for expensive infrastructure facilities such as air-conditioning, dustfree atmosphere, storage space, fire protection, UPS break-up may increase the expenses involved



## Material Activities Performed using Computer Based System

- Maintenance of Inventory Records
- Computation of order quantities
- Preparation of Purchase and Stores requisitions for inventory items
- Preparation of enquiries for obtaining quotations
- Preparation of Purchase orders
- Preparation of material shortage reports



# Computer Hardware used in Computer-Based Inventory Management System

- Main Frame System
- Mini Computer
- Micro Computers



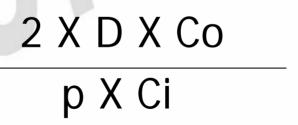
# Objective of Area of Application of Information Technology in Inventory Management

- Periodic valuation of inventory
- Selective Inventory Control such as ABC Analysis, XYZ Analysis, VED Analysis, HML Analysis, FSN Analysis
- Inventory Status Reports and Stores Ledgers
- Exception reports of high/low stocks
- Consumption analysis
- Computation of EOQ, safety stocks and reorder levels
- MRP-I Output Reports



#### **EOQ** Formula

■ EOQ =





### In above EOQ Formula, Whereas

- D = Annual Demand in Units
- Co = Ordering Cost per Order
- p = Unit Price of the item
- Ci = Inventory Carrying Charges expressed as a percentage of the value of the average inventory



### Phases of MRP System

- MRP Inputs
- MRP Processing
- MRP Outputs



### MRP Inputs

- Master Production Schedule (MPS) file
- Bill of Materials File or Product Structure
  File
- Inventory Status File



### MRP Outputs

- Primary Reports
- Secondary Reports



### **Primary Reports**

- Planned Orders
- Order Releases
- Changes to Planned Orders



### Secondary Reports

- Performance Control Reports
- Planning Reports
- Exception Reports



### Software for Inventory Control

- IMPACT by IBM
- INFOREM by IBM
- MAPICs by IBM
- MICROSOFT PROFIT
- SAP
- BAAN
- INTEGRAACC by PC SOFT



### Role of IT in Inventory Management

- e-mail
- e-Purchase
- e-commerce
- E-business
- EDI
- B2B
- B2C

