

# Working Capital Management

Inventory Management

- Inventory means stock of goods.
- It includes Tangible Property
  - i) Held for sale in the ordinary course of business
  - ii) In the process of production for sale,
  - iii) To be consumed in the process of production of goods or services for sale

# Elements of Inventory

- Raw Material
  - Direct Material
  - Indirect Material
- Work-in-Progress
- Consumables
- Finished Goods
- Stores and Spares

# Motives of Holding Inventory

- Transaction Motive
- Precautionary Motive
- Speculative Motive

# Costs Associated with Inventory

- Purchasing Cost
- Ordering Cost
- Carrying Cost
- Stock out Cost

# Objectives of Inventory Management

## A. Operational Objectives

- Availability of Materials
- Minimization of Wastage
- Optimum Level of Inventories
- Better Service to Customers

## B. Financial Objectives

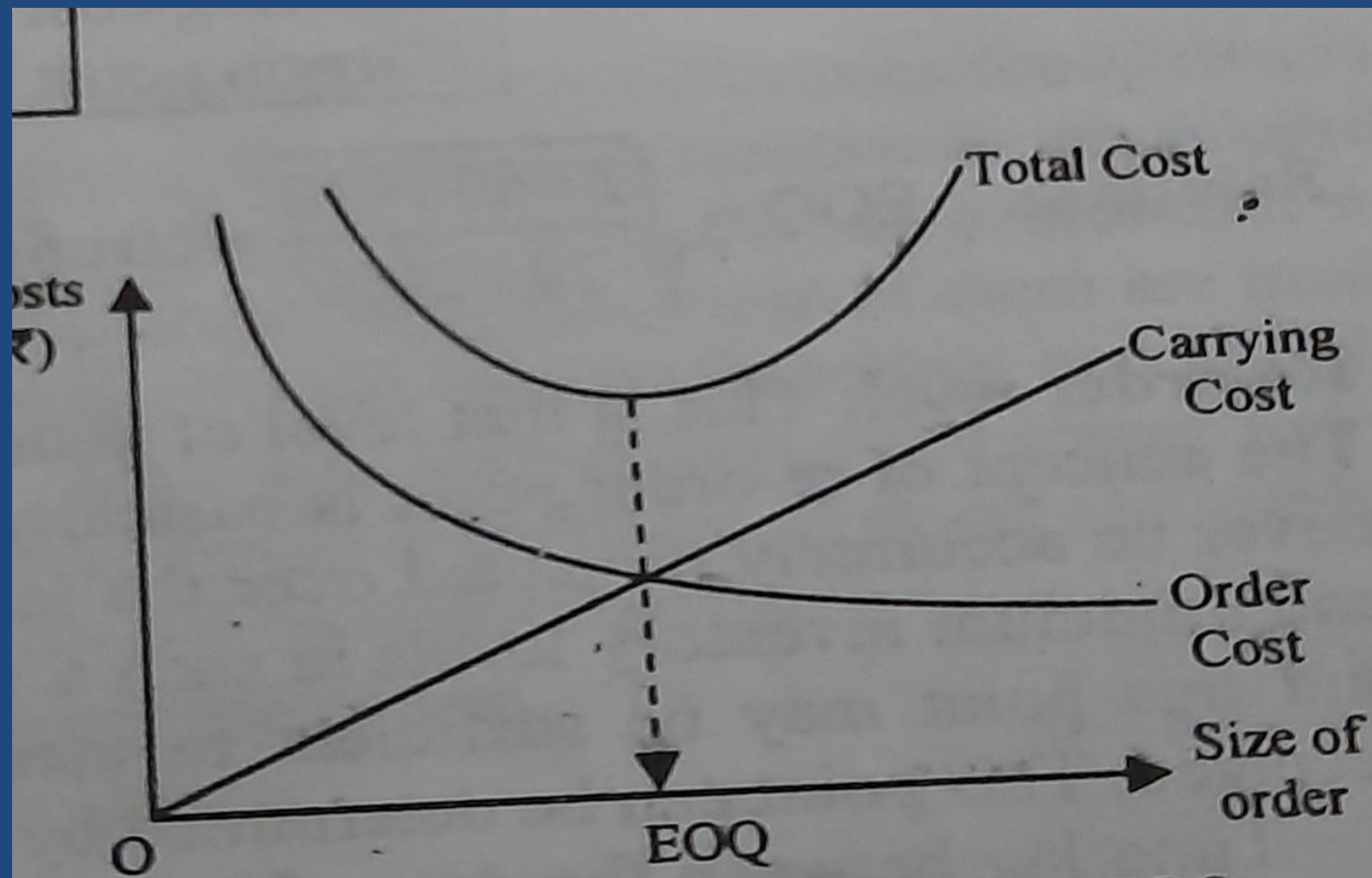
- Efficient Use of Capital
- Minimizing Costs
- Improving Profitability

# Techniques of Inventory Management



- Economic Ordering Quantity(EOQ) is the quantity of inventory which can be ordered in one lot to minimise the overall cost of inventory to the Company.
- To determine EOQ both Ordering Cost and Carrying Cost are taken into Consideration.
- Carrying costs include Cost of Storage, Insurance etc. whereas Ordering costs include cost of placing an order.





**Figure 4.5: Graphical Method of EOQ**

- $EOQ = \sqrt{2DA/h}$
- Where D = Quantities needed in a year in units
- A= Cost of placing an order ,and
- h = Holding Cost of one unit

- A Company uses annually 12,000 units of raw material costing ₹ 1.25 per unit. Placing an order costs ₹ 15 and carrying costs are 15% per year per unit of the average inventory. Find EOQ ?

- Here  $D = 12,000$  units.
- $A = ₹ 15$  per unit
- $h = 15\% \times ₹ 1.25 = 0.1875$
  
- $EOQ = \sqrt{2AD/h}$
- $= \sqrt{\{(2 \times 12,000 \times 15) / 0.1875\}}$
- $= 1,385$  units

# ABC Analysis

- In ABC Analysis materials are divided into 3 categories as follows:
- Stricter control is exercised on Category A items whereas relaxed control is exerted on category C items.

Category	% in Volume	% in Value
A	10	70
B	20	20
C	70	10

# VED Analysis

- Valuable – Stands for vital items without which production is not possible.
- Essential – Essential items are those whose stock out would adversely affect the efficiency of the production system.
- Desirable – These items are required but their shortage will not affect the production system.
- VED Analysis is generally done for Spare Parts.

# Re-Order Level

- This is the level of materials at which a new order for materials has to be placed.
- This level is fixed in between the maximum and minimum level of inventory
- Re-order level is can be found by these methods:
  1.  $\text{Re-Order Level} = \text{Lead Time} + \text{Safety Stock}$
  2.  $= \text{Max. Re-order period or Lead Time} \times \text{Rate of Consumption}$

# Just-in -Time

- It is a Japanese management philosophy applied in manufacturing which involves having the right items of the right quality and quantity in the right place and right time.