



# **BUSINESS LEVEL II MANAGEMENT ACCOUNTING**

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## **Material Cost**

# Material Cost

❑ The Cost incurred when we are purchasing and storing the materials.

Example: Raw Material  
Consumption Material  
Maintenance Material  
Packing Material



# Different levels of material control

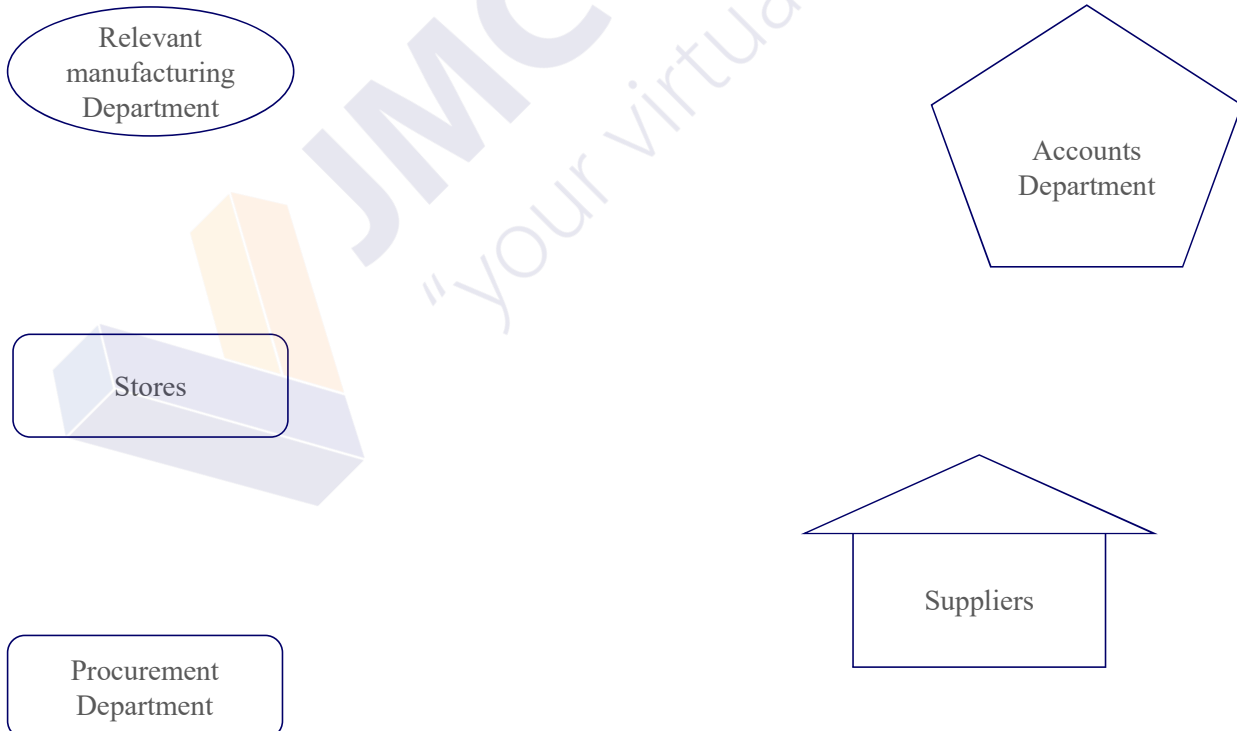
Purchasing Control

Stock Control

Issuing Control

## ❑ Purchasing Control

- Companies expect to achieve following objectives from purchasing control.
  - Avoid storing of unnecessary items
  - Mitigate the financial manipulations related to material purchasing



# Inventory Control

- Inventory control means managing company inventory levels to ensure that the company is keeping the optimal amount of each product.
- It comprises management of items from the time you have them in stock to their final destination (ideally to customers) or disposal (not ideal).



# Inventory Related Costs

Inventory Ordering Cost

Inventory Holding Cost

Stock Shortage Cost

# Inventory Ordering Cost

- The cost that incurred from the point of ordering to the point of delivery inventories to the business.

Ex: Ordering cost

Transportation cost

# Inventory Holding Cost

- Total cost that incurred from the time you have them in stock to their final destination (ideally to customers) or disposal (not ideal).

Ex: Storage cost

Finance cost

Inventory & stores insurance

Stores rent, electricity



# Stock Shortage Cost

- Reduction in market share
- Damage on reputation
- Losses on discontinuing of business processes



# Stock Controlling Methods

- EOQ and Reorder level
- JIT Method
- ABC Method



# Economic Order Quantity

Economic Order Quantity means,

1. Quantity that need to order with minimizing total inventory cost or,
2. Quantity that ordering cost equal to the holding cost.



# Formula

## Example :

Z-Company produces fertilizer to sell to wholesalers. One raw material: calcium nitrate is purchased from a nearby supplier at \$22.50 per ton. Z-Company estimates it will need 5,750,000 tons of calcium nitrate next year.


The annual carrying cost for this material is 40% of the acquisition cost, and the ordering cost is \$595.

- 1.EOQ
2. Annual effective number of orders
3. Order cycle time



## Total Ordering Cost

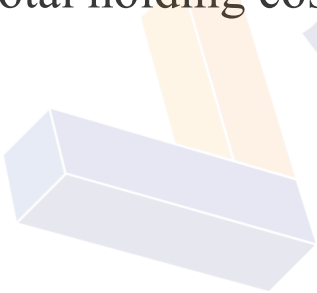
Total ordering Cost = Effective number of orders  $\times$  Per order cost



Number of orders =  $\frac{\text{Annual Demand}}{\text{EOQ}}$

## Total Holding Cost

Total holding cost =  $EOQ / 2 \times$  Per unit annual holding cost



## EOQ with Bulk Discounts

### Example :

X material has annual demand of 45 units. Purchasing cost is Rs.200. The holding cost per unit is 15% from purchasing cost and ordering cost is Rs.300.

The company can get 3% discount if order is above 60 units and 5% if order is above 90 units.

Required : Number of quantity need to order to minimize the total cost.





# Reorder Level



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## Reorder Level

Reorder level = Maximum usage  $\times$  Maximum lead time

## Minimum Inventory Level

Minimum inventory level = Reorder level – Average usage  $\times$  Average lead time

## Maximum Inventory Level

Maximum inventory level = EOQ + Reorder level – ( Minimum usage  $\times$  Minimum lead time)

## Average Inventory Level

$$\frac{\text{Minimum inventory level} + \text{Maximum inventory level}}{2}$$

Or

$$\text{Minimum inventory level} + \frac{\text{EOQ}}{2}$$

## Example :

Materials X and Y are used as follows:

Minimum usage	-	50 units each per week
Maximum usage	-	150 units each per week
Normal usage	-	100 units each per week
Ordering quantities	X	= 600 units
	Y	= 1,000 units
Delivery period	X	= 4 to 6 weeks
	Y	= 2 to 4 weeks

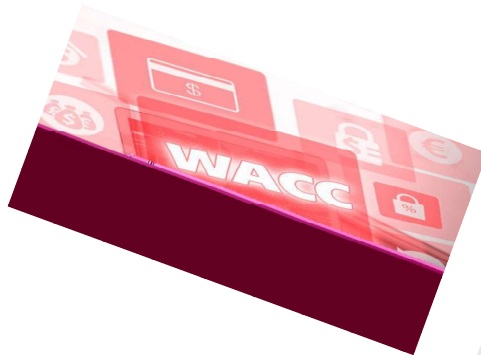
Calculate for each material:

- (a) Minimum level
- (b) Maximum level
- (c) Order level



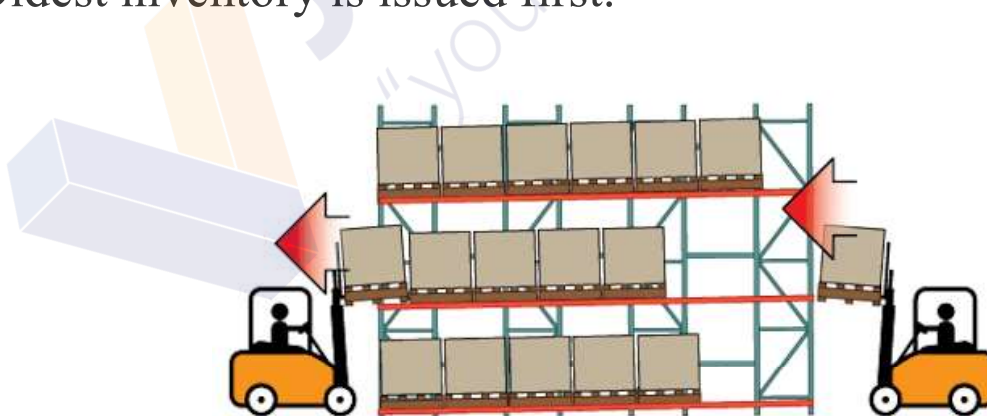
# Inventory Valuation Method

- ✓ First in First Out Method - FIFO
- ✓ Weighted Average Cost - WACC



# First in First Out Method - FIFO

Oldest inventory is issued first.



## Weighted Average Cost - WAC

Inventory is issued based on the average cost of the inventory.

$$\text{Weighted Average Price} = \frac{\text{Cost of the inventory}}{\text{No of units}}$$

## Stores Ledger

- The document that use to record the inventory receiving to stores and issuing from stores.





01. In times of rising prices, the FIFO method of inventory valuation, when compared to the average cost method of inventory valuation, will usually result in which of the following?

- A. A higher profit and a lower closing inventory value
- B. A higher profit and a higher closing inventory value
- C. A lower profit and a lower closing inventory value
- D. A lower profit and a higher closing inventory value

02. During May 20X7, Bhavya's purchases were Rs. 126,500k, and her sales were Rs. 150,000k. Bhavya's gross profit is 20% of sales. The value of her inventory at 1 May 20X7 was Rs. 12,500k. What is the value of Bhavya's inventory at 31 May 20X7?

- A. Rs. 6,000k
- B. Rs. 11,000k
- C. Rs. 14,000k
- D. Rs. 19,000k

03. Your organisation uses the continuous weighted average cost method of valuing inventories. During August 20X9, the following inventory details were recorded:

Opening balance 30 units valued at Rs. 200 each  
5 August Purchase of 50 units at Rs. 240 each  
10 August Issue of 40 units  
18 August Purchase of 60 units at Rs. 250 each  
23 August Issue of 25 units

Required Calculate the value of the inventory balance at 31 August 20X9.

- A. Rs. 18,000
- B. Rs. 19,000
- C. Rs. 14,000
- D. Rs. 19,500





06. JW sells kitchen fittings throughout the country in which it operates.

Soap dispensers

Demand for JW's liquid dispensers is 95,000 units per annum. Demand is evenly distributed throughout the year. The cost of placing an order is Rs. 15 and the cost of holding a unit of inventory for a year is Rs. 3.

Calculate how many orders of liquid dispensers JW should make in a year.

- A. EOQ = 900
- B. EOQ = 925
- C. EOQ = 975
- D. EOQ = 950

07. OG sells door stoppers throughout the country in which it operates.

Hooks

Demand for door stoppers is 2,500 packs per year, each pack contains four door stoppers. The door stoppers are purchased from a single supplier, and it costs Rs. 25 to place an order. The cost of holding a single door stopper in inventory for a year is 50c. 15.7 Calculate how many door stoppers should be ordered each time to minimize inventory costs (answer to the nearest 10).

- A. EOQ = 1,000
- B. EOQ = 1,050
- C. EOQ = 1,075
- D. EOQ = 1,025

08.FLG LLC wishes to minimise its inventory costs. Annual demand for a raw material costing Rs. 12 per unit is 60,000 units per year. Inventory management costs for this raw material are as follows:

Ordering cost: Rs. 6 per order

Holding cost: Rs. 0.5 per unit per year

The supplier of this raw material has offered a bulk purchase discount of 1% for orders of 10,000 units or more. If bulk purchase orders are made regularly, it is expected that annual holding cost for this raw material will increase to Rs. 2 per unit per year.

Required: Calculate the total cost of inventory for the raw material when using the economic order quantity.

A. Rs. 720,600

B. Rs. 720,000

C. Rs. 750,000

D. Rs. 729,500

09.EGS LLC wishes to minimise its inventory costs. Annual demand for a raw material costing Rs. 120 per unit is 6,000 units per year. Inventory management costs for this raw material are as follows:

Ordering cost: Rs. 6 per order

Holding cost: Rs. 0.5 per unit per year

The supplier of this raw material has offered a bulk purchase discount of 1% for orders of 1,000 units or more. If bulk purchase orders are made regularly, it is expected that annual holding cost for this raw material will increase to Rs. 2 per unit per year. 15.9 Assess whether accepting the discount offered by the supplier will minimise the total cost of inventory for the raw material.

A Rs. 715,956

B Rs. 716,500

C Rs. 713,836

D Rs. 718,335

10. Which of the following functions are fulfilled by a goods received note (GRN)? (i) Provides information to update the stock records on receipt of goods (ii) Provides information to check the quantity on the supplier's invoice (iii) Provides information to check the price on the supplier's invoice

- A. (i) and (ii) only
- B. (i) and (iii) only
- C. (ii) and (iii) only
- D. All of them

11. If the first-in, first-out method of pricing had been used, the value of the issue on 9 September would have been:

<i>Date</i>		<i>Units</i>	<i>Unit price</i> Rs	<i>Value</i> Rs	
1 Jan	Balance b/f	1,000	5.00	5,000	A. Rs. 3,500
3 Mar	Issue	400			B. Rs. 3,550
4 Jun	Receipt	500	5.50	2,750	C. Rs. 3,950
6 Jun	Receipt	500	6.00	3,000	D. Rs. 4,200
9 Sept	Issue	700			

12. Which of the following documents would be completed for materials being returned to stores from production?

- A. Material requisition note
- B. Purchase requisition note
- C. Goods received note
- D. Goods returned note

13. Which of the following would be the form completed by the stores department detailing inventory requirements?

- A. Material requisition note
- B. Purchase requisition note
- C. Goods received note
- D. Goods returned note

14. Which of the following would be completed for materials being returned to the supplier?

- A. Material requisition note
- B. Purchase requisition note
- C. Goods received note
- D. Goods returned note

15. Which of the following would be the form completed by stores on receipt of goods?

- A. Material requisition note
- B. Purchase requisition note
- C. Goods received note
- D. Goods returned note

16. Which of the following would be the form completed by production detailing inventory requirements?

- A. Material requisition note
- B. Purchase requisition note
- C. Goods received note
- D. Goods returned note

17. Which of the following would be completed by stores to record all movements on individual items of inventory?

- A. Material requisition note
- B. Stock Card
- C. Purchase Order
- D. Goods returned note