

## CMA TEST- 1 (Solution)

Time Allowed: 1 hour

TOPIC: MATERIALS

Total Marks: 35 Marks

Answer to Question no.1

**Centralized Purchasing and Decentralized Purchasing**

- 1) CENTRALISED PURCHASING:-**Centralized purchasing is the system where one common purchasing department manages the purchasing function of all the departments of the organization. Although this system enables the organization to place the order in large quantities, it may slow down the procurement process.
- 2) ADVANTAGES OF CENTRALISED PURCHASING:**
- Helps in availing quantity discount and cash discount. Hence, cost is reduced.
  - Prompt reporting of scrap, obsolete stock and storage losses.
- 3) DECENTRALISED PURCHASING:-**Decentralized purchasing is a system where purchasing of material is made by various departments independently as per their own requirements. It helps to purchase the materials immediately in case of urgent needs.
- 4) ADVANTAGES OF DECENTRALISED PURCHASING:-**
- Local supply sources are developed which reduces the transport cost.
  - Different departments are made accountable and responsible in relation to their own purchase.
- 5) WHICH SYSTEM IS BEST? :-**It is to be decided by the organization keeping in mind the following factors:-
- Nature and Quantity and quality of material to be purchased.

Answer to Question no.2:

Annual Requirement (u)= 40,000 packs

Cost Per Order ( P ) = ₹ 8 .

Storage and Carrying Cost per pack p.a

(s) = ₹ 40 x 10% = ₹ 4 .

Lead time = 3 days.

$$(a) \text{ EOQ} = \sqrt{\frac{2UP}{S}}$$

$$= \sqrt{\frac{2 \times 40,000 \times 8}{4}} = 400 \text{ Packs.}$$

$$(b) \text{ No. of orders} = \frac{40,000}{400} = 100$$

$$(c) \text{ Total Cost of Ordering and Storage at EOQ Level} = \sqrt{2UPS}$$

$$= \sqrt{2 \times 40,000 \times 8 \times 4} = ₹ 1,600.$$

(d) Re-Order Level

= Safety Stock + (Average requirement during lead time)

$$= \text{NIL} + \left( \frac{40,000 \text{ Packs}}{360 \text{ days}} \times 3 \text{ day} \right)$$

= 333 packs.

At Present, the inventory level is also 333 packs which means that new order is to be placed immediately.

**Answer to Question no.3:****(i) (1) Inventory turnover ratio (Raw material)**

$$= \frac{\text{Raw material consumed}}{\text{Average stock of Raw material}} = \frac{\text{₹ 4,05,00,000}}{\text{₹ 22,50,000}} = 18 \text{ times}$$

$$\text{Average stock of raw material} = \frac{\text{Opening stock} + \text{closing stock}}{2} = \frac{\text{Nil} + 45,00,000}{2} = \text{₹ 22,50,000}$$

**(2) Inventory turnover ratio (Finished goods)**

$$= \frac{\text{Cost of sales}}{\text{Average stock of finished goods}} = \frac{\text{₹ 4,05,00,000}}{\text{₹ 1,08,00,000}} = 3.75 \text{ times.}$$

$$\text{Average stock of finished goods} = \frac{\text{Opening stock} + \text{closing stock}}{2} = \frac{\text{Nil} + 2,16,00,000}{2} = \text{₹ 1,08,00,000}$$

$$\text{(3) Input-Output ratio} = \frac{\text{Input consumed}}{\text{Output obtained}} \times 100 = \frac{1,80,000 \text{ units}}{1,60,000 \text{ units}} \times 100 = 112.5\%$$

$$\text{Input consumed (in quantity)} = \frac{\text{₹ 4,05,00,000}}{\text{₹ 225 p.u.}} = 1,80,000 \text{ units}$$

$$\text{(4) Stock-out ratio} = \left( \frac{\text{Orders held up due to stock shortage}}{\text{Total orders received}} \right) \times 100$$

$$= \frac{12,000 \text{ units}}{(1,00,000 + 12,000 + 8,000) \text{ units}} \times 100 = 10\%$$

**Explanation:-** During the year, the company has received order of 1,20,000 units and out of which, the order of 12,000 units could not be fulfilled due to stock shortage. Hence, the company fails to fulfill 10% of total ordered quantity.

**(ii) Comments:-**

- (1) Raw material turnover ratio (18 times) is maintained at high level which means that the consumption of raw material is at fast speed and stock of raw material is held for short period. This situation is favorable to the organization.
- (2) Finished goods turnover ratio (3.75 times) is maintained at low level which means that sale of finished goods is at slow speed and stock of finished goods is held for long period. This situation is unfavorable to the organization.
- (3) Input output ratio of 112.5% means that 12.5% of total input is wasted in manufacturing procedure.
- (4) Stock-out ratio indicates that the organization lacks internal control system in context of stock management.