

Quadrant II - Notes

Paper Code : COG 140

Module Name: levels of store: a) Re-order b) minimum c) maximum d)Average

Meaning of Stock Levels

- Stock level refers to the amount of goods or raw materials that should be maintained by businesses to continue their activities and avoid any type of situations like under stocking or overstocking.
- Every organization should always keep an optimum amount of inventory so as to ensure that there is a regular operation of its production activities.
- Inventory basically acts as a bridge between production and sales of business and ensures that regular supplies of finished goods are made available to the customers.
- Raw materials, work-in-progress, finished goods and various consumables like fuel and stationery are three important types of inventories that every firm needs to maintain.
- Inventory managers should properly control the inventory and determine the optimum size to be always kept within the organization.
- Managers should consider various factors like storage space of firm, the frequency with which inventory is sold or used, risk of inventory getting outdated before it is used, insurance cost on inventory, etc. for deciding the right amount of stock.
- **Major types of stock levels of inventory are as follows:**

1. Reorder Level

- When the quantity of materials reaches a certain level then fresh order is sent to procure materials again. The order is sent before the materials reach minimum stock level.
- The reordering level is fixed between the minimum level and maximum level.
- The rate of consumption, number of days required for replenishing the stocks, and the maximum quantity of materials required on any day are taken into consideration while fixing the reordering level.
- **Reordering Level = Maximum Consumption Rate x Maximum Reorder period.**

2. Minimum Level:

- This represents the quantity which must be maintained in hand at all times.
- If stocks are less than the minimum level, then the work will stop due to shortage of materials.

Following factors are to be taken into consideration while deciding minimum stock level:

(i) Lead Time:

- A purchasing firm requires some time to process the order and time is also required by the supplier/vendor to execute the order.
- The time taken in processing the order and then executing it is known as lead time.
- It is essential to maintain some inventory during this period to meet production requirements.

(ii) Rate of Consumption:

- It is the average consumption of materials items in the industry.
- The rate of consumption will be decided on the basis of past experience and production plans.

(iii) Nature of Material:

- The nature of material also affects the minimum level.
- If a material is required only against special orders of the customer then minimum stock will not be required for such materials.
- Wheldon has given the following formula for calculating minimum stock level:
- $\text{Minimum stock Level} = \text{Re-ordering Level} - (\text{Normal Consumption} \times \text{Normal Reorder Period})$

3. Maximum Level:

- It is the quantity of materials beyond which a firm should not exceed its stocks.
- If the quantity exceeds maximum level limit then it will be termed as overstocking.
- A firm should avoid overstocking because it will result in high material costs.
- $\text{Maximum Stock Level} = \text{Reordering Level} + \text{Reorder Quantity} - (\text{Minimum Consumption} \times \text{Reorder period})$
- **Maximum stock level will depend upon the following factors:**
 1. The availability of capital for the purchase of materials in the firm.
 2. The maximum requirements of materials at any point of time.
 3. The availability of space for storing the materials as inventory.
 4. The rate of consumption of materials during lead time.
 5. The cost of maintaining the stores.
 6. The possibility of fluctuations in prices of various materials.

4. Average Stock Level:

- Average Stock level shows the average stock held by a firm.
- Average stock level is the average quantity of stock for a given time of period.

▪ **The Average stock level is calculated such as:**

Average Stock Level = Minimum stock Level + 1/2 of Reorder Quantity.

Practical Problem:-

Find out the minimum stock level, maximum stock level, reordering stock level, and average stock level from the following particulars:-

Minimum consumption	100 units per day
Maximum consumption	150 units per day
Normal consumption	120 units per day
Reorder quantity	1500 units per day
Minimum period or receiving the goods	8 days
Maximum period or receiving the goods	16 days
Normal period or receiving the goods	12 days

Solution:-

1. Reordering Level = Maximum Consumption Rate x Maximum Reorder period

$$=150 \times 16$$

$$=2400 \text{ units}$$

2. Maximum Stock Level = Reordering Level + Reorder Quantity – (Minimum Consumption x Reorder period)

$$=2400+1500-(100 \times 8)$$

$$=960 \text{ units}$$

- 3. Minimum stock Level = Re-ordering Level – (Normal Consumption x Normal Reorder Period)**

$$=2400-(120 \times 12)$$

$$=3100 \text{ units}$$

- 4. Average stock level = [Minimum Level + Maximum level]/2**

$$=3100+960/2$$

$$=4060/2$$

$$=2030 \text{ units}$$