Chapter - 2 Material

Quick Notes

Reorder Level:

max usage/consumption x max lead time

or

Safety Stock + lead time consumption

Minimum Level:

ROL - [Average consumption x Average Period]

ROL = Reorder Level

Maximum Level:

ROL + ROQ - [mini consumption x Mini Period]

ROQ = Reorder Quantity

Average Level:

$$\frac{\text{Mini Level} + \text{max Level}}{2}$$

or

Mini Level + ½ of Reorder Quantity

or

$$\frac{\text{opening Stock} + \text{Closing Stock}}{2}$$

Danger Level:

mini Consumption x mini Period

or

Average Consumption x Mini Period

or

Mini Consumption x Average Period

EOQ: [economic order Quantity]

$$\sqrt{\frac{2AB}{C}}$$

A = Annual Requirements of materials
B = Buying cost per order // ordering cost per order
C = carrying cost per Unit P.A. (Price x %)

Associated Cost:

Total Buying Cost + Total carrying cost

$$\left[\frac{A}{EOQ} \times O\right] + \left[\frac{EOQ}{2} \times C\right]$$

Alternate method:

$$\sqrt{2ABC}$$

$$\text{Nb. of orders} = \frac{A}{EOQ}$$

$$\text{Average Inventory} = \frac{EOQ}{2}$$

EOQ formula is also known as Wilson formula.

material turnover Ratio / inventory turnover Ratio

$$\frac{\text{Cost of Raw Material Consumed}}{\text{Average Stock of RM}} = \text{(in times)}$$

If material T/O Ratio is greater than or equal to 4 times then it is considered to be high ⇒ Fast Moving (Regularly used)

If MTR is less then 4 times then it is considered to be low ⇒ Slow Moving (Rarely used)

No. of Days Average Inventory is held

$$\Rightarrow \frac{365}{MTR}$$