

## Ch-2 Material

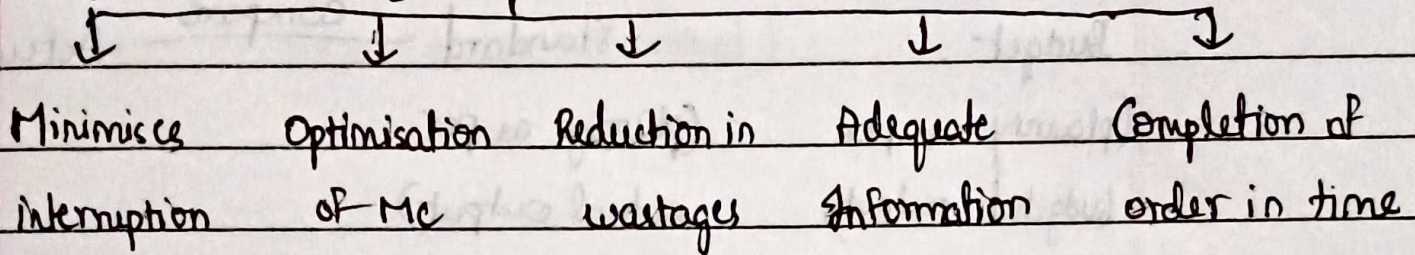
- \* Material = commodities used to make final product
- \* 3E's = Economy in procurement  
Efficiency in handling & processing material  
Effectiveness in producing desired output
- \* Trade A quantity discount to be deducted, cash discount ignore.
- \* Subsidy deduct
- \* GST ITC ✓ ~~deduct~~  
ITC X ~~deduct~~ = include.
- \* Abnormal costs like demurrage, detention, penalty not to be included
- \* Comm. Insurance, Freight to be added.
- \* ROQ ↑ → avg inv ↑ → carrying cost ↑  
ROQ ↑ → no. of orders ↓ → ordering cost ↓
- EOQ = level of ROQ where total of CCA OC is minimum
- \*  $EOQ = \sqrt{\frac{2AO}{C}}$ , A = annual requirement  
C = OC per unit.  
C = carrying cost p.u p.a
- \* carrying cost = avg. inventory × CC p.u p.a =  $\frac{1}{2} ROQ \times p.p.u.a$
- \* ordering cost = no. of orders × OC per order
- \* Reorder level = when to order  
(i) lead time consumption + safety stock  
(avg lead time × avg consumption) + min stock level (safety)  
(max lead time × max consumption)
- \* MSt Min stock level =  $ROL - (avg\ lead\ time \times avg\ consumption)$
- \* Maximum stock level =  $ROL + (min\ consp \times min\ LT) + ROQ$
- \* Avg stock level =  $\frac{Min\ stock\ level + max\ stock\ level}{2}$   
= min stock level +  $\frac{1}{2} ROQ$

\* Danger level = Avg consumption  $\times$  lead-time for emergency purchase.

\* Stores Ledger

Date	Receipt			Issue			Balance		
	Qty	Rate	Amnt	Qty	Rate	Amnt	Qty	Rate	Amnt

\* Objectives of System of Material Control



\* ABC Analysis

A :- 10% of total items requiring 70% investments

B :- 20% of total items requiring 20% investments

C :- 70% of total items requiring 10% investments

\* FSN inventory is based on frequency of sale.

\* VED method is based on material's requirement in production

\* HML inventory is based on cost of an individual item

\* Inventory turnover ratio =  $\frac{\text{Cost of materials consumed}}{\text{Cost of avg stock held during year}}$

$$\text{Avg stock} = \frac{\text{Op. Stock} + \text{Cl. Stock}}{2}$$

\* Avg no. of days of inventory holding =  $\frac{365 / 12 \text{ months}}{\text{Turnover Ratio}}$

### Ch-3:- Employee Costing

- \* Benefits payable to employee for services rendered.
  - whether permanent or not
  - Includes in cash or kind.
- \* Deduct PF or any contributions made.
- \* Add PF contribution by employer to the salary.
- \* Normal idletime shall be spread to other costs.
- \* Abnormal transfer to costing P&L.
- \* Overtime → daily > 9 hrs, weekly > 48 hrs, twice the amount.
- \* → If customer demands, transfer OT premium to job.
- \* → If OT is because of unexpected dulp, OT premium → overheads.
- \* → If OT because of fault of any dept, OT premium → such dept.
- Abnormal reasons, OT premium → Costing P&L.
- \* Halsey ⇒ Time taken × Time Rate + (50% of Time saved × Time rate)
- \* Rowman ⇒ Time taken × Rate +  $\left[ \frac{\text{Time saved}}{\text{Time allowed}} \times \text{Time taken} \times \text{Rate} \right]$

\* Efficiency % =  $\frac{\text{Time allowed}}{\text{Time taken}} \times 100$

### \* Labour turnover

→ Replacement method ⇒  $\frac{\text{No. of employees replaced (R)} \times 100}{\text{Avg no. of employees (A)}}$

→ Separation method ⇒  $\frac{\text{No. of employees separated (S)} \times 100}{A}$

→ Flux method ⇒  $\frac{R + S}{A} \times 100$  (New recruits (additional are known as Accruals))

⇒  $\frac{S + A_{sc}}{A} \times 100$       A = No. of employees beginning + ending

→ Equivalent Employee turnover ⇒  $\frac{ETR}{\text{No. of days}} \times 365$