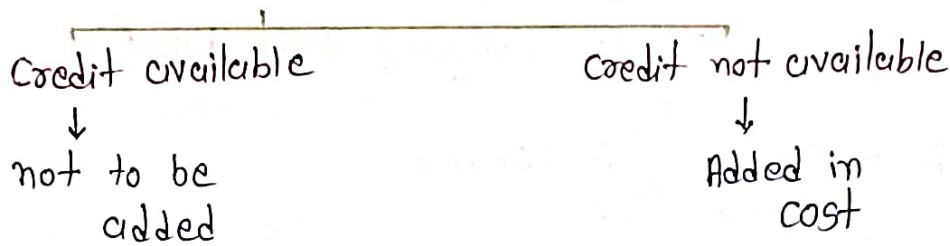


Material Costing.

Concept 1: Valuation of Material.

1. Purchase Cost
2. Trade Discount
3. Quality Quantity Disc
4. Cash Discount
5. Grant / Subsidy / Incentive
6. Road Tax / Toll Tax
7. Customs duty
8. Insurance
9. SGST / CGST / IGST (on value)



10. Freight Inward → Added (if Paid by buyer)
11. Demurrage (charges levied by Transporter for delay) → Not Added
12. Detention charges → Not Added.
13. Any other fines / Penalty → Not Added.
14. Cost of Containers
 - Non-Returnable - Added in cost
 - Returnable
 - Full Amt. → cost = 0
 - Partial Amt. → Partial cost Added.

15. Shortage : ~~(Page no. 10)~~
BOST

Normal loss - Reduced (Other units bear the loss)

Abnormal loss - go to P & L a/c-

Debited to costing P & L a/c-

Concept 2 : Re-order level

is the level at which order for material is placed.

Formula: i) maximum Consumption \times maximum Re-order Period.

ii) \times Safety Stock + [Avg. Consumption \times Avg. Re-order Period]

Concept 3 : Re-order qty.

$$EOQ = \sqrt{\frac{2 \times A \times O}{C}}$$

A = Annual Demand

O = ordering Cost Per order

C = Carrying Cost Pu. Pu.

$$\begin{aligned} \text{ordering Cost} &= \text{No. of order} \times \text{OC/order} \\ &= \frac{AD}{EOQ} \times \text{OC/order} \end{aligned}$$

$$\text{Carrying Cost} = \text{Inventory carried} \times \text{CC. Pu. Pu.}$$

$$\downarrow$$

$$\frac{EOQ}{2} \times \text{CC. Pu. Pu.}$$

$$\text{CC. Pu. Pu.} = \% \times \text{unit Price.}$$

⊗ Concept 3A : EOQ v/s. Non-EOQ (without Discount)

Sol^m:

Given: AD =

OC =

CC = % × Price

$$EOQ = \sqrt{\frac{2 \times A \times O}{C}} = \text{units.}$$

Statement of Cost Comparison betⁿ EOQ & Non-EOQ.

Particulars	EOQ	Non-EOQ.
i. AD	✓	✓
ii. Purchase Price	✓	✓
iii. Purchase Cost	✓	✓
iv. OQ.	calculated	Given
v. No. of orders		
vi. OC	₹ ₹	₹ ₹
vii. Avg. Inv.		
viii. CC	₹ ₹	₹ ₹
ix. Total cost.	₹ ₹ ₹	₹ ₹ ₹

Concept 3B : EOQ v/s. Non-EOQ. (with discount)

Solⁿ: AD = _____ units

OC = ₹ _____

CC. Pu. Pe. = % × Non-dis. Price.

a) $EOQ = \sqrt{\frac{2 \times A \times O}{C}}$ = _____ units.

b) Statement of Cost Comparison betⁿ EOQ & Non-EOQ.

Particulars.	EOQ.	Non-EOQ.
i. AD	✓	✓
ii. Purchase Price	w/o dis	w/ dis.
iii. Purchase Cost		
iv. OQ	calculated.	Given
v. no. of orders		
vi. OC = ₹		
vii. Avg. Invt.		
viii. CC. Pu. Pe. = % × Price.		

Note: a) if in question CC. Pu. Pe. amt is given ₹10 then it will remain same for EOQ & Non-EOQ.

b) If in question % × Price (w/o dis) for CC. Pu. Pe. But question state that CC. Pu. Pe. will not vary according to Disc. Policy then CC. Pu. Pe. will be same for EOQ & Non-EOQ.

ix. CC

x. Total Cost
(CC + PC + OC)



Concept 4 : Stock levels

a) Re-order level :

i. $\frac{\text{maximum Consumption}}{\text{maximum Re-order Period}}$

ii. $\text{Safety Stock} + [\text{Avg. Cons.} * \text{Avg ROP}]$
(min stk)

b) Minimum stock level = $\text{RoL} - [\text{Avg. Cons.} * \text{Avg. ROP}]$

c) maximum stock level = $\text{RoL} + \text{RoQ} - [\text{min. cons.} * \text{min ROP}]$

Imp. Points: ~~if~~ i) formula mention RoQ & Not EOQ.

ii) if question gives Both EOQ & RoQ (non-EOQ). we will use RoQ.

iii) if question states only EOQ then
 $\text{EOQ} = \text{RoQ}$.

d) Avg. stock level = i. $\frac{\text{min stk level} + \text{max stk level}}{2}$

ii. $\text{Safety Stock} + \frac{\text{RoQ}}{2}$

e) Danger stock level = Normal Cons. \times Lead time for
Emergency Purchase.

Concept 5 : Input : output Ratio.

$$\text{Production function} = Q_0 = f(Q_1)$$

↓ ↓
Dependent Independent.

$$\text{Formula} = \frac{\text{Input}}{\text{output}}$$

Interpretation.

a) When I : O Ratio is given as $3:2$ then it means for every 2 units of output 3 units of Input is Required.

eg. Annual Production 20,000 units.

$$I : O = 3 : 2$$

Annual Demand (RM) = 30,000 units.

b) When I : O Ratio is expressed as % 110% i.e. $\frac{110}{100}$ for every 100 units of output 110 units of Input is Required.

eg. Annual Prodⁿ = 20,000 units.

$$I : O \% = 120\%$$

Annual Demand (RM) = 24,000 units.

Concept 6 : ABC Analysis (Discriminating Control)

	A	B	C
Price	70/-	20/-	10/-
Qty.	10/-	20/-	70/-
Conclusion	↓ High in Value, Low in Qty.		↓ Low in Value, High in Qty.

Concept 7 : FSN Analysis.

F : Fast

S : Slow

N : Non-moving.

$$\text{Inventory Turnover ratio} = \frac{\text{Cost of Material Consumed}}{\text{Cost of Avg. Inventory.}}$$

a) Cost of material Consumed

Opening stock of RM

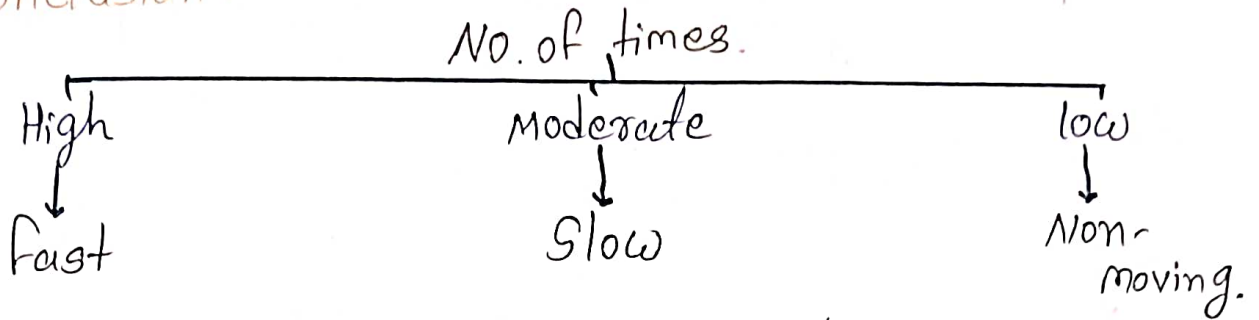
(+) Purchases of RM

(-) closing stock of RM

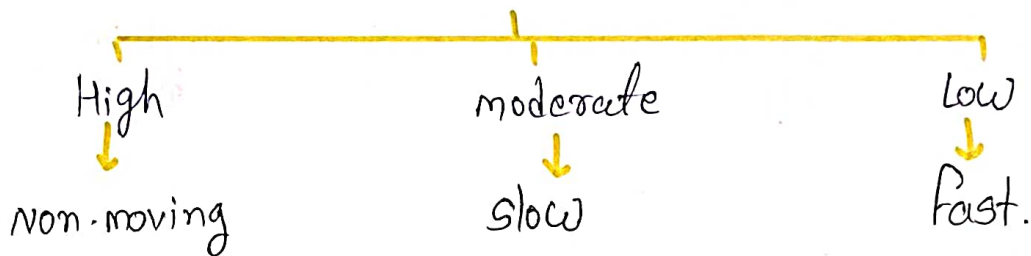
Cost of Material Consumed.

$$\text{b) Avg. Inventory Cost} = \frac{\text{Opening} + \text{Closing}}{2}$$

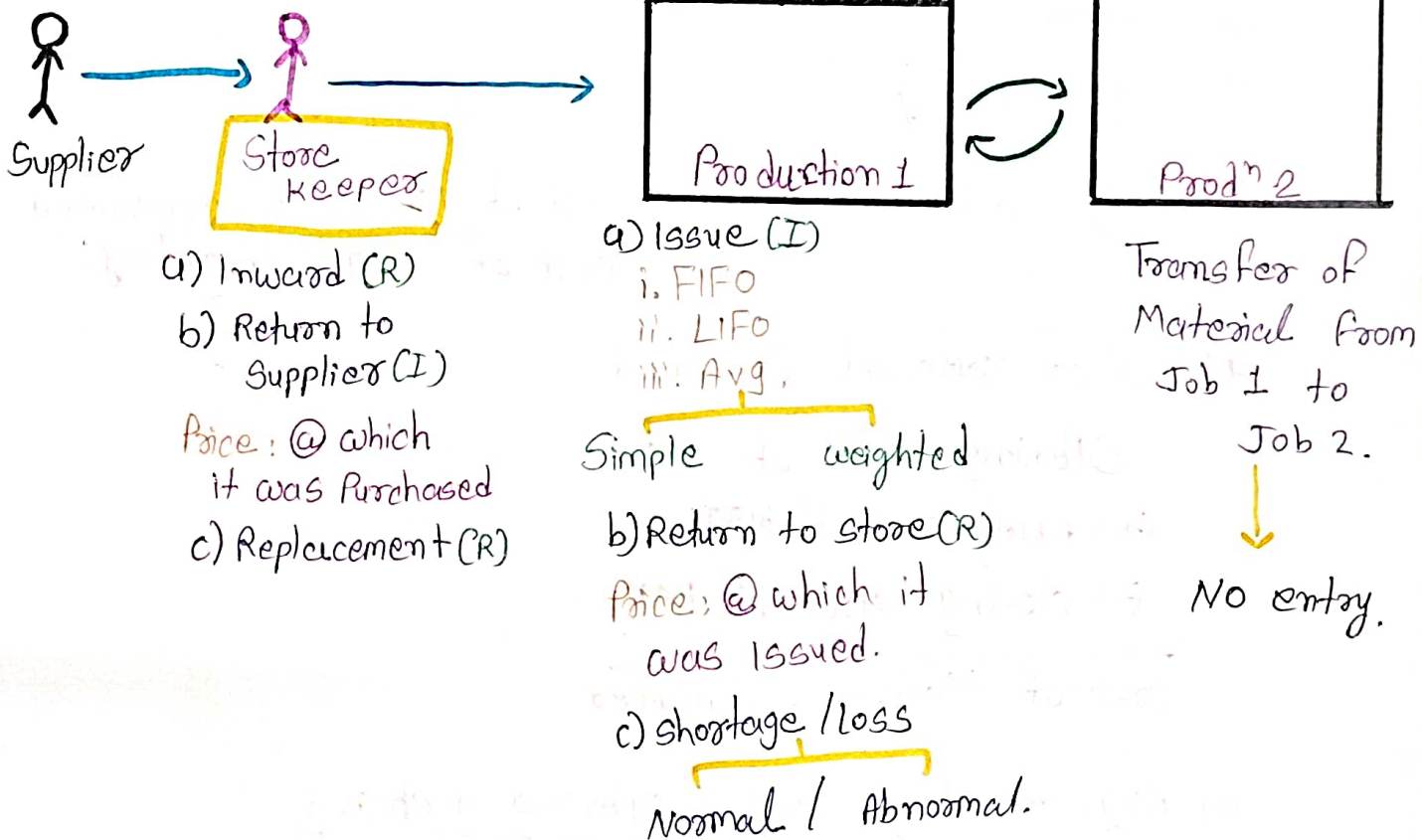
Conclusion:



$$\text{Inventory Holding Period} = \frac{\text{No. of days / month in Year.}}{\text{Inventory Turnover Ratio.}}$$



Concept 8: Store ledger



Average Method

Simple Avg. Method

$$\text{Formula} = \frac{P_1 + P_2}{2}$$

eg. 100 units @ 50
200 units @ 75

$$\text{Simple Avg.} = \frac{50 + 75}{2} = 62.5$$

$$\therefore 300 \text{ units @ } 62.5 = 18750$$

Weighted Avg. Method.

$$\text{Formula} = \frac{P_1 \times Q_1 + P_2 \times Q_2}{Q_1 + Q_2}$$

eg. 100 units @ 50
200 units @ 75

$$\text{Weighted Avg.} = \frac{100 \times 50 + 200 \times 75}{100 + 200}$$

$$= 66.67$$

$$300 \text{ units @ } 66.67 = 20,000.$$