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CHAPTER 1 - MATERIALS COST

1. **Re-order quantity (ROQ):** order size repeated by any business organisation,

2. **Ordering cost:** 'cost associated with placement of orders'

$$= \frac{A}{ROQ} \times O$$

   A = annual requirement of raw material to be purchased
   O = cost per order

3. **Carrying cost:** cost associated with holding of average raw material stock.

$$= \frac{1}{2} \times ROQ \times C$$

   C = cost per unit per annum

4. **Economic order quantity (EOQ):** order size at which total of ordering and carrying cost will be lowest'
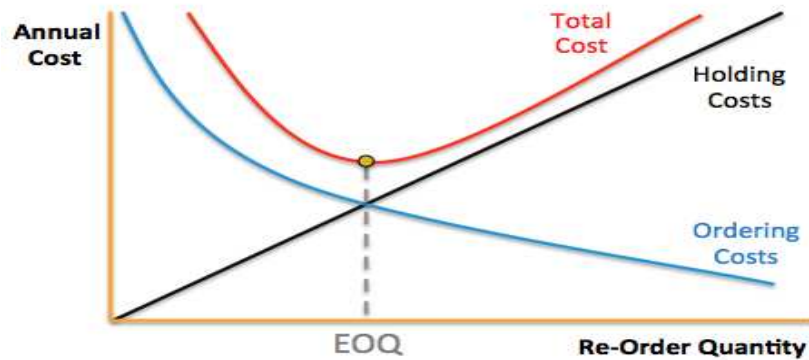
$$EOQ = \sqrt{\frac{2AO}{C}}$$

5. **Re order level/ ordering level/ re order point:**

Alternative 1   'when there is no safety/minimum stock'

   ROL = Maximum usage during maximum delivery period

Alternative 2   'when there is safety/minimum stock'

   ROL = Average usage during average delivery period + Minimum stock/Safety stock

6. **Maximum stock level:**

   Maximum level = Re-order level + Re-order quantity – Minimum usage during minimum period

7. **Minimum stock level:**

   Minimum level = ROL – normal usage during average period

8. **Average stock level:**

   Alternative 1 = ½ (Minimum stock level + Maximum stock level)

Alternative 2   =   ½ of ROQ + Minimum stock level

9. Danger stock level:

Danger level   =   Normal consumption during emergency lead time (preferred)

Or

=   Minimum consumption during emergency lead time

10. ABC analysis:

	% Value	% Quantity	Control
A	70%	10%	high
B	20%	20%	medium
C	10%	70%	low

11. Issue pricing of material:

Statement Showing Cost Per Unit

Particulars	₹
Purchase price	XXX
Less: Trade or Quantity discount (× Cash discount)	(XXX)
Less: Subsidy/grant/incentives from government	(XXX)
Add: Road tax/toll tax	XXX
Add: IGST/CGST/GST/Custom duty (when ITC is not available)	XXX
Add: Insurance	XXX
Add: Commission/brokerage on purchase	XXX
Add: Freight inward	XXX
Add: Net cost of containers or packing material (when not returnable or returnable at low value)	XXX
Total cost	XXX
÷ Number of effective units (total units – normal shortage – provision for further Shortage)	XXX
Cost per unit	**XXX**

Note: Cash discount, Indirect tax if ITC is available and demurrage/ detention charges/ penalty etc. do not form part of cost.

12. Normal loss/standard loss/unavoidable loss:

➢ Average/ standard loss of concern industry,
➢ Customer will suffer this loss due to increase in cost.

Particulars	Quantity	Rate	Value
Purchase	100	10.00	1,000
Less : Normal loss	(10)	-	-
Total Cost	**90**	**11.11**	**1,000**

13. Abnormal loss:

➢ Loss over and above normal loss
➢ Businessmen will suffer this loss by debiting it in Costing P/L
➢ No impact on cost per unit

Particulars	Quantity	Rate	Value
Purchase	100	10.00	1,000
Less : Abnormal loss	(10)	10.00	(100)
Total Cost	**90**	**10.00**	**900**

14. Inventory turnover ratio: Materials consumed ÷ average inventory

15. **Inventory turnover in days:**   365 ÷ ITR

16. **Stores ledger:**

Date	Receipts			Issues			Balance		
	Quantity	*Rate*	*Value*	*Quantity*	*Rate*	*Value*	*Quantity*	*Rate*	*Value*
				Return to supplier					
	Return To stores								
				Shortage					

Note:

➢ Transferred between two job or departments: No treatment in stores ledger

➢ Return to supplier: Issue side at the rate it received from supplier

➢ Return to stores: Receipt side at the rate of issue/recent issue

➢ Abnormal shortage: Issue side as per the method (transfer to Costing P/L)

➢ Normal shortage: Issue side only in quantity column

➢ Material consumed: Total value of issued material - material return to stores – abnormal shortage – return to supplier

CHAPTER 2 - EMPLOYEE COST OR LABOUR COST

1. ***Wages under straight piece rate system***   =   Number of units produced × piece rate

2. ***Wages under straight time rate system***   =   Working hours × time rate per hour

3. ***Wages under Halsey system***   =   AH × R + 50% (SH - AH) × R

AH	=	Actual hours worked for actual production
SH	=	Standard time allotted for actual production
SH – AH	=	Time saved by the worker
R	=	Time rate

4. ***Wages under Rowan system***   =   AH × R + AH/SH (SH - AH) × R

5. ***Effective rate***   =   Wages ÷ AH

6. ***Labour turnover rates:***

   Separation method   = $\dfrac{\text{Number of separations}}{\text{Average workers}} \times 100$

   Replacement method   = $\dfrac{\text{Number of replacements}}{\text{Average workers}} \times 100$

   New accession method   = $\dfrac{\text{Number of new joinings}}{\text{Average workers}} \times 100$

   Accession method   = $\dfrac{\text{Number of total joinings}}{\text{Average workers}} \times 100$

   Flux method (alt 1)   = $\dfrac{\text{No. of separations + replacements}}{\text{Average workers}} \times 100$

   Flux method (alt 2)   = $\dfrac{\text{No. of separations + accessions}}{\text{Average workers}} \times 100$

   Average workers   = $\dfrac{\text{Opening workers + Closing workers}}{2}$

7. ***Equivalent turnover rate***   = $\dfrac{\text{Employee turnover rate for the period}}{\text{Number of days in a period}} \times 365$

8. ***Statement Showing Profit Foregone on Account of Labour Turnover***

Particulars	Amount
Contribution foregone due to delay in filling the vacancies	XXX
Contribution foregone due to unproductive training hours (if these hours are excluded)	XXX
Settlement cost due to leaving	XXX
Recruitment costs	XXX
Selection costs	XXX
Training costs	XXX
Profit Foregone	***XXX***

9. ***Idle time:*** Worker in factory without work but eligible for wages

Normal idle time: It is the time which cannot be avoided or reduced in the normal course of business

Causes
   ➢ The time lost between factory gate and the place of work,

➢ The interval between one job and another,
➢ The setting up time for the machine,
➢ Normal rest time (fatigue), break for lunch etc.

Treatment
➢ Increase labour rate
➢ Charged to production overheads

Abnormal idle time: Apart from normal idle time, there may be factors which give rise to abnormal idle time

Causes
➢ Idle time may also arise due to abnormal factors like lack of coordination
➢ Power failure, breakdown of machines
➢ Non-availability of raw materials, strikes, lockouts, poor supervision, fire, flood etc.

Treatment
➢ Transfer to costing P/L

10. Overtime: Working over and above normal working hours

Overtime payment   =   Payment as per normal rate + Overtime premium

Overtime premium Payment in excess of normal wage rate (generally double)

Treatment of overtime premium:

OVERTIME PREMIUM			
DUE TO PERMANENT SHORTAGE OF LABOUR	DUE TO MEET THE REQUIREMENT OF PRODUCTION	AT CUSTOMER REQUEST	DUE TO ABNORMAL REASONS
USE INFLATED RATE OF LABOUR	TRANSFER PREMIUM TO PRODUCTION OVERHEADS	CHARGE PREMIUM DIRECTLY TO JOB	TRANSFER PREMIUM TO COSTING P/L
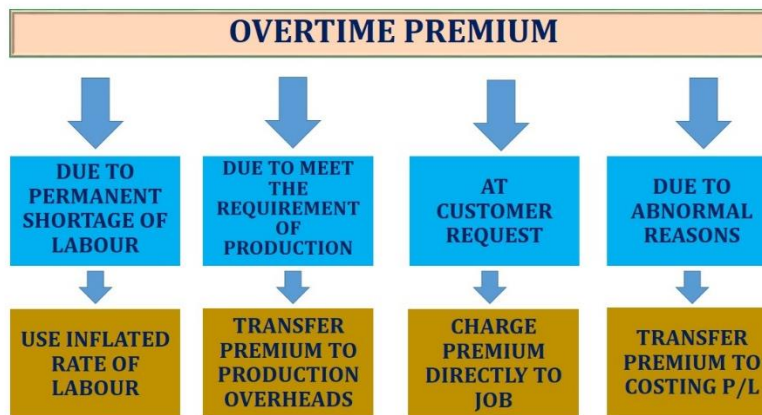
11. Statement Showing Gross and Net Wages:

Particulars	Amount
Basic Wages	XXX
Dearness Allowance	XXX
Basic plus D.A.	XXX
Bonus	XXX
Various Allowances	XXX
Other Cash Payments	XXX
Gross Wages Payable	**XXX**
Less: Employee's contribution to P.F.	XXX
Less: Employee's contribution to E.S.I.	XXX
Less: T.D.S.	XXX
Less: Professional Tax	XXX
Less: Loan Deduction	XXX
Less: Any other Deduction	XXX
Net Wages Payable	**XXX**

12. **Statement Showing Labour Cost Per Hour:**

Particulars	Amount
Basic Wages	XXX
Dearness Allowance	XXX
Basic plus D.A.	XXX
Bonus	XXX
Various Allowances	XXX
Other Cash Payments	XXX
Perquisites	XXX
	XXX
Add: Employer's contribution to P.F.	XXX
Add: Employer's contribution to E.S.I.	XXX
Labour Cost	*XXX*
÷ Effective Labour Hours	÷XXX
(Working Hours – Eligible Holidays – Normal Idle Time)	
Labour Cost Per Hour	*XXX*

Note: If nothing is specified in the question, contribution of employer towards P.F. and E.S.I. equals to employee contribution

CHAPTER 3 - OVERHEADS

1. **Production Overheads:**
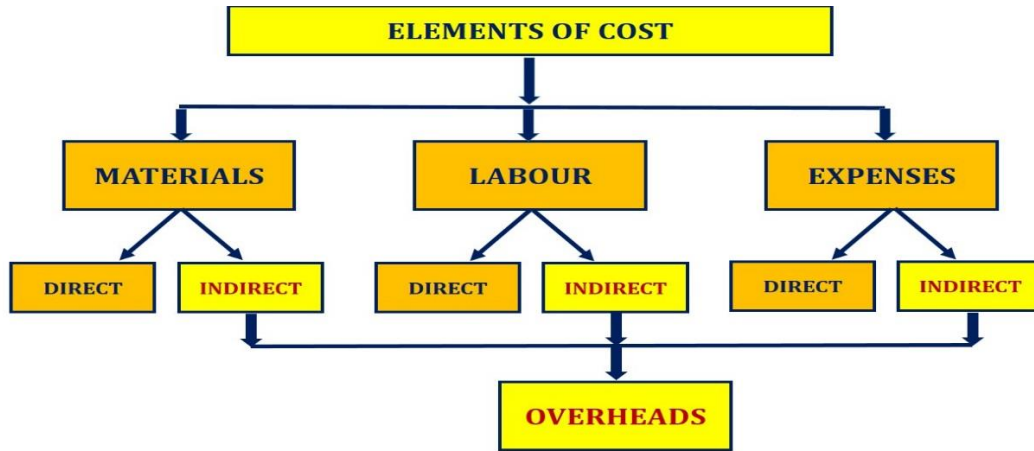
2. **Types of Departments:**

➢ Main/production departments: Product is produced in these departments
➢ Support/service departments: Product is not produced in these departments but these departments help to main departments

3. **Types of Cost:**
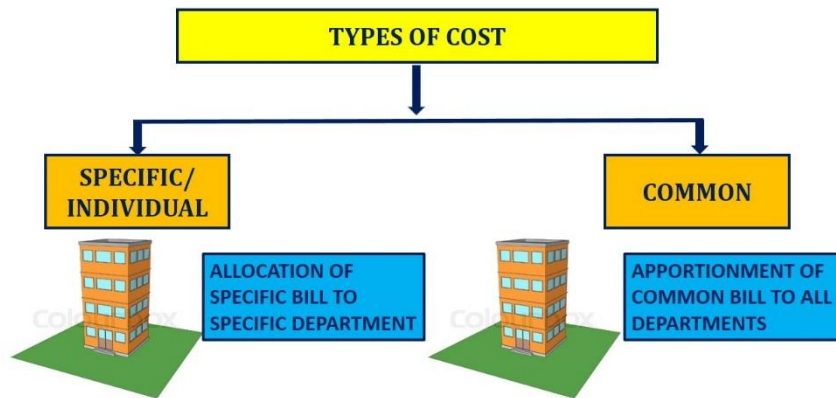
4. **Statement Showing Primary Distribution:**

Particulars	Basis	Production dept.		Service dept.	
		P1	P2	S1	S2
Allocation:		No	No	Yes	Yes
Direct material		No	No	Yes	Yes
Direct labour		No	No	Yes	Yes
Direct expenses		Yes	Yes	Yes	Yes
Indirect material		Yes	Yes	Yes	Yes
Indirect labour		Yes	Yes	Yes	Yes
Indirect expenses		Yes	Yes	Yes	Yes
Other specific cost		Yes	Yes	Yes	Yes
Apportionment:					
Rent	Area	Yes	Yes	Yes	Yes
Insurance etc.	Value	Yes	Yes	Yes	Yes
Total OH		*XXX*	*XXX*	*XXX*	*XXX*

5. **Secondary Distribution:**

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                    ┌─────────────────────────────────┐
                    │     SECONDARY DISTRIBUTION       │
                    └─────────────────────────────────┘
              ┌──────────────────┴──────────────────────┐
    ┌──────────────────┐                      ┌──────────────────┐
    │  DIRECT METHOD   │                      │ INDIRECT METHOD  │
    └──────────────────┘                      └──────────────────┘
                                          ┌─────────┴─────────┐
                                ┌──────────────────┐  ┌──────────────┐
                                │  NON RECIPROCAL  │  │  RECIPROCAL  │
                                └──────────────────┘  └──────────────┘
                          ┌─────────────┬─────────────────────┐
                 ┌──────────────┐  ┌──────────┐      ┌──────────────┐
                 │   REPEATED   │  │ EQUATION │      │  TRIAL AND   │
                 │ DISTRIBUTION │  │          │      │    ERROR     │
                 └──────────────┘  └──────────┘      └──────────────┘
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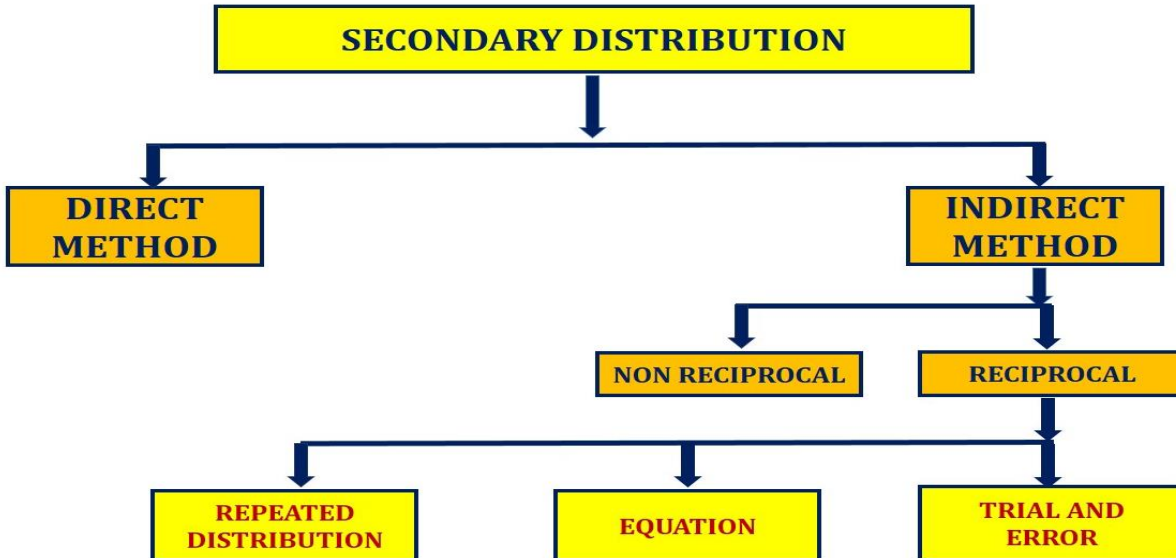
6. **Predetermined Recovery Rate:** = $\dfrac{\text{Budgeted Overheads}}{\text{Budgeted Recovery Base}}$
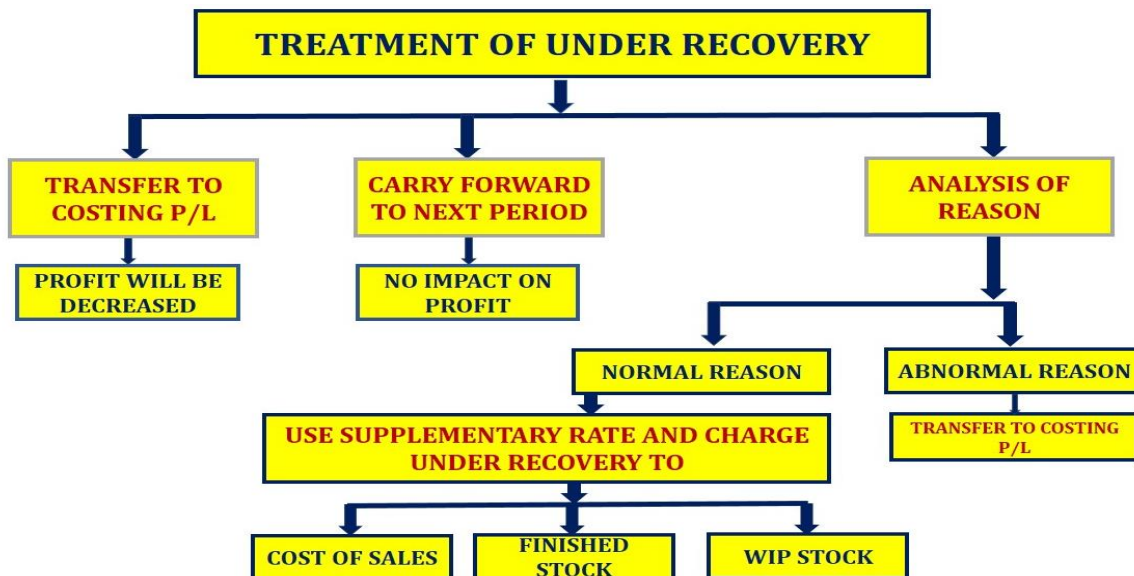
➢ Overheads recovery rate is also known as overheads charging rate, overheads application rate and overheads absorption rate'

7. **Under or Over Recovery:** Difference between recovered overheads and actual overheads

Situations:

1. Recovered OH > Actual OH   Over Recovery
2. Recovered OH < Actual OH   Under Recovery
3. Recovered OH = Actual OH   Equal Recovery

8. **Treatment of Under Recovery:**

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                    ┌─────────────────────────────────┐
                    │   TREATMENT OF UNDER RECOVERY    │
                    └─────────────────────────────────┘
          ┌──────────────────────┬──────────────────────────┐
 ┌──────────────────┐  ┌──────────────────┐        ┌──────────────────┐
 │   TRANSFER TO    │  │  CARRY FORWARD   │        │   ANALYSIS OF    │
 │   COSTING P/L    │  │  TO NEXT PERIOD  │        │     REASON       │
 └──────────────────┘  └──────────────────┘        └──────────────────┘
 ┌──────────────────┐  ┌──────────────────┐    ┌───────────┴───────────┐
 │  PROFIT WILL BE  │  │  NO IMPACT ON    │ ┌──────────────┐ ┌──────────────┐
 │    DECREASED     │  │     PROFIT       │ │ NORMAL REASON│ │ABNORMAL REASON│
 └──────────────────┘  └──────────────────┘ └──────────────┘ └──────────────┘
                              ┌─────────────────────────┐ ┌──────────────────┐
                              │ USE SUPPLEMENTARY RATE  │ │ TRANSFER TO COSTING│
                              │ AND CHARGE UNDER        │ │       P/L          │
                              │ RECOVERY TO             │ └──────────────────┘
                              └─────────────────────────┘
                     ┌─────────────┬─────────────┐
              ┌──────────────┐ ┌──────────┐ ┌──────────┐
              │ COST OF SALES│ │ FINISHED │ │ WIP STOCK│
              │              │ │  STOCK   │ │          │
              └──────────────┘ └──────────┘ └──────────┘
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9. **Types of Recovery Rate:**

➢ Normal rate/actual rate = $\dfrac{\text{Actual Overheads}}{\text{Actual Recovery Base}}$

➢ Predetermined OH rate $\quad = \quad \dfrac{\text{Budgeted Overheads}}{\text{Budgeted Recovery Base}}$

➢ Departmental OH rate $\quad = \quad \dfrac{\text{OH of Concern Department}}{\text{Base of Concern Department}}$

➢ Blanket OH rate $\quad = \quad \dfrac{\text{Total Overheads of Factory}}{\text{Recovery Base for Factory}}$

10. Blanket OH Rate:

➢ Blanket overhead rate refers to the computation of one single overhead rate for the whole factory.
➢ The use of blanket rate may be proper in certain factories producing only one major product in a continuous process or where the work performed in every department is fairly uniform or standardised.

11. Statement Machine Hour Rate (MHR):

Particulars	Amount
(A) Standing charges:	
Rent	XXX
Heat and light	XXX
Forman's salary	XXX
Depreciation	XXX
Wages	XXX
Bonus	XXX
Other fixed cost	XXX
Total Standing Charges (A)	XXX
(B) Running expenses:	
Repairs and maintenance	XXX
Consumable stores	XXX
Power	XXX
Other variable cost	XXX
Total Running Expenses (B)	XXX
Total Expenses(A+B)	XXX
÷ Effective Machine Hours	÷ XX
Machine Hour Rate (MHR)	*XXX*

Machine Hours includes:

1. Running hours   Always productive/effective

2. Set up hours   As per question or assumption

3. Maintenance hours   Always unproductive

CHAPTER 4 - COST SHEET AND UNIT COSTING

1. ***Cost Sheet:*** A cost sheet or cost statement is a document which provides a detailed cost information (functional classification).

2. ***Proforma Cost Sheet:***

Particulars	***Total Cost***
Direct Material Consumed:	
Raw Materials Purchased	
Add: Opening stock of Raw Materials	
Less: Closing stock of Raw Materials	
Add: Carriage Inward	
Less: Recovery From Sale of Scrap of Raw Materials	
Less: Cost of Abnormal Loss of Raw Materials	
Direct Wages or Labour or Employee Cost:	
Wages and salaries	
Allowance and incentives	
Payment for overtime	
Bonus	
Employer's contribution in P.F, E.S.I. etc.	
Other benefits	
Direct Expenses:	
Cost of utilities such as power & fuel, steam etc.	
Royalty paid/ payable for production or provision of service	
Hire charges paid for hiring specific equipment	
Fee for technical assistance and know-how	
Amortised cost of moulds, patterns, patents etc.	
Cost for product/ service specific design or drawing;	
Cost of product/ service specific software	
Prime Cost	***XXX***
Factory/Works/Production/Manufacturing Overheads:	
Consumable stores and spares	
Depreciation of plant and machinery, factory building etc.	
Lease rent of production assets	
Repair and maintenance of plant and machinery, factory building etc.	
Indirect employees cost related with production activities	
Drawing and Designing department cost	
Insurance of plant and machinery, factory building, stock of raw material & WIP etc.	
Amortized cost of jigs, fixtures, tooling etc.	
Service department cost such as Tool Room, Engineering & Maintenance, and Pollution Control etc.	
Gross Works Cost/Factory Cost	***XXX***
Add: Opening WIP	
Less: Closing WIP	
Works/Factory Cost	***XXX***
Add: Quality Control Cost	
Add: Research and Development Cost	
Add: Administrative Overheads (relating to production activity)	

Less: Credit for recoveries/Scrap/By-Products Add: Packing Cost (Primary)	
Cost of Production	***XXX***
Add: Opening Finished Goods Less: Closing Finished Goods	
Cost of Goods Sold	***XXX***

Add: Administrative OH (General/not related to production):
    Depreciation and maintenance of, building, furniture etc. of corporate or general management.
    Salary of administrative employees, accountants, directors, secretaries etc.
    Rent, rates & taxes, insurance, lighting, office expenses etc.
    Indirect materials- printing and stationery, office supplies etc.
    Legal charges, audit fees, corporate office expenses like directors' sitting fees, remuneration and commission, meeting expenses etc.
 	
Add: Selling Overheads:
    Salary and wages related with sales department and employees directly related with selling of goods.
    Rent, depreciation, maintenance and other cost related with sales department.
    Cost of advertisement, maintenance of website for online sales, market research etc.
 	
Add: Distribution Overheads:
    Salary and wages of employees engaged in distribution of goods.
    Transportation and insurance costs related with distribution.
    Depreciation, hire charges, maintenance and other operating costs related with distribution vehicles etc.
 	
Add: Packing Cost (Secondary)
Add: Interest and finance charges paid (on non-equity funds)	

Cost of Sales Add: Profit	***XXX*** XXX
Sales	***XXX***

CHAPTER 5 - JOB AND BATCH COSTING

1.   Job Costing:

➢   In this method costs are collected and accumulated for specific jobs/work order

➢   Each job is treated as a separate entity for the purpose of costing

➢   This method is used to ascertain cost and profit of each job and takes into account the cost of materials, employees and overhead etc.

2.   Batch Costing:

➢   Batch costing is a type of specific order costing where articles are manufactured in predetermined lots, known as batch

➢   This method is used to ascertain cost and profit of specific batch or units in specific batch

3.   Economic Batch Quantity (EBQ):

$$EBQ \quad = \quad \sqrt{\frac{2DS}{C}}$$

Where,

D	=	Annual demand for the product
S	=	Setting up cost per batch
C	=	Carrying cost per unit of production

CHAPTER 6 - CONTRACT COSTING

1. Normal Contract Account:

Proforma Contract A/C

Particulars	`	Particulars	`
To Material:		By Work-in-progress:	
Opening stock	XXX	Work certified	On Sale Value
Purchased	XXX	Work uncertified	On Cost
Received from stores	XXX		
Transfer from other site	XXX	By Material:	
To Wages	XXX	Closing stock	XXX
To Depreciation on plant	XXX	Cost of material sold	XXX
To Other expenses	XXX	Cost of material lost	XXX
To Administrative OH	XXX	By Escalation claim (cr.)	XXX
To Establishment charges	XXX		
To Sub contactor	XXX		
To Chargeable expenses	XXX		
To Notional Profit	**XXX**		
	XXX		**XXX**

➢ Don't show loss of plant in contract account (loss of plant is transferred to costing p/l), just calculate depreciation on plant actually used.

➢ Actual sale value of material is irrelevant, cost of material sold is relevant.

➢ Profit or loss on sale of plant and material is transferred to costing P/L and not in contract A/C.

➢ Penalty and incentives are directly transferred to costing P/L.

2. Value of WIP in Balance Sheet:

Assets side	Amount
Work-in-progress:	
Work certified	XXX
Work uncertified	XXX
Less: Cash recd. From contractee	(XXX)
Value of WIP in Balance Sheet	**XXX**

3. Balance Sheet (relevant extracts):

Liabilities	Amount	Assets	Amount
Capital	XXX	Plant	
Net profit	XXX	Less: Depreciation	XXX
Outstanding wages	XXX	Building	
Creditors	XXX	Less: Depreciation	XXX
Other liabilities	XXX		
		Materials at site	XXX
		Prepaid expenses	XXX
		Other assets	XXX
		Work-in-progress:	
		Work certified	
		Work uncertified	
		Less: Cash recd. From contractee	XXX
	-		-

4.   Contractee A/C:

Particulars	Amount	Particulars	Amount
Year 1 To balance c/d	XXX	By bank	XXX
	XXX		XXX
Year 2 To balance c/d	XXX	By balance b/d By bank	XXX XXX
	XXX		XXX
Last year To Contract a/c	XXX	By balance b/d By Bank (Final Settlement)	XXX XXX
	XXX		XXX

5.   Estimated Profit   =   Contract Price – Cost to date – Further Estimated Cost (Including provision if any)

6.   Escalation Claim: Claim to compensate increase in price of standard quantity of raw materials and increase in wage rate of standard labour hours'

   ➤   Claim is only for standard quantity of material and labour hours

   Escalation Claim   =   SQ of Materials (AP - SP) + SH of Labour (AR - SR)

7.   More than one year: Closing balance of current period   =   Opening balance of next period

8.   Retention money: contractee doesn't pay full amount of work certified to contractor. Small portion is retained by contractee and such portion is known as retention money. At the time of completion of contract contractee has to pay full amount to contactor

CHAPTER 7 - OPERATING COSTING OR SERVICE COSTING

1. **Operating costing:** This method is used to calculate cost and determine price of one service unit.

2. **In CA intermediate ICAI covers following services:**

   ➢ Transport service
   ➢ Hotel and lodges service
   ➢ Restaurant service
   ➢ Hospital service
   ➢ Educational institute
   ➢ Information technology (it) and it enabled services (ites)
   ➢ Toll plaza
   ➢ Financial institutes
   ➢ Insurance and
   ➢ Power generation service.

3. **Transport Service:**

Proforma Operating Cost Sheet for Transport Service

Particulars	Amount
(A) **Standing Charges or Fixed Cost:**	
Depreciation (life related to period, like: 5 years)	XXX
Insurance	XXX
License	XXX
Salary of manager, driver, conductor etc.	XXX
Road tax	XXX
Permit fee	XXX
Garage rent	XXX
Any other fixed cost	XXX
Total (A)	**XXX**
(B) **Running Charges or Variable Cost:**	
Diesel/petrol	XXX
Lubricants, oil etc.	XXX
Depreciation (life related to activity, like: 50,000 kms)	XXX
Commission	XXX
Any other variable cost	XXX
Total (B)	**XXX**
(C) **Maintenance Charges or Semi Variable Cost:**	
Repairs and maintenance	XXX
Tyres	XXX
Spares etc.	XXX
Total (C)	**XXX**
Total Operating Cost (A + B + C)	**XXX**
Add: profit	XXX
Net Collections or Taking	**XXX**
Add: Indirect taxes (Passenger tax, GST etc.)	XXX
Gross Collections or Taking	**XXX**
÷ Total passenger-kms or ton-kms	XXX
Fare/Charges for Per Passenger-Km or Ton-Kms	**XXX**

4.   *Absolute tonne kms*   =   D1 × W1 + D2 × W2 + D3 × W3........

5.   *Commercial tonne kms*   =   Total Distance × Average Weight

6.   *Service Cost Unit:*

Operating cost per unit   =   Total cost ÷ Service units

Service units can be classified as:

  ➢   Single service unit
  ➢   Composite service unit

Name of Service	Single Service Unit	Composite Service Unit
Taxi	Cost per km	-
Auto (sharing)	Cost per km	Cost per passenger-km
Roadways bus	Cost per km	Cost per passenger-km
Truck	Cost per km	Cost per ton-km
Hotel	Cost per room-day	-
Coaching	Cost per batch	Cost per batch-student

7.   *Differential Fare:* In case of different charges for different categories of service, differential fare is calculated on the basis of equivalent units of service.

CHAPTER 8 - PROCESS & OPERATION COSTING

1. ***Normal Process Account:***

Step 1: Prepare separate process account by debiting all direct cost and apportionable and recoverble expenses.

Step 2: Credited process account with normal loss units and their scrap value.

Step 3: Calculate normal cost per unit (NCPU) $= \dfrac{\text{Total Cost} - \text{Sale Vale of Normal Loss Units}}{\text{Total Units} - \text{Normal Loss Units}}$

Step 4: Valued actual output and abnormal gain or loss as per NCPU.

Step 5: Prepare normal loss, abnormal loss, abnormal gain and profit and loss A/C.

Proforma Process Account

Particulars	Units	₹	Particulars	Units	₹
To Process A/C (Previous)	XXX	XXX	By Normal loss	XXX	XXX
To Units introduced		XXX			
To Sundry materials		XXX	By Process A/C (Next) or	XXX	XXX
To Labour		XXX	Finished goods A/C or Costing		
To Direct expenses		XXX	P/L A/C		
To Indirect expenses		XXX			
To Abnormal Gain (If any)		XXX	By Abnormal loss (If any)	XXX	XXX
	XXX	XXX		XXX	XXX

Proforma Normal Loss Account

Particulars	Units	₹	Particulars	Units	₹
To Process I A/C	XXX	XXX	By Cash A/C:		
To Process II A/C	XXX	XXX	Process I	XXX	XXX
To Process III A/C	XXX	XXX	Process II	XXX	XXX
			Process III	XXX	XXX
			By Abnormal gain A/C	XXX	XXX
	XXX	XXX		XXX	XXX

Proforma Abnormal Loss Account

Particulars	Units	₹	Particulars	Units	₹
To Process I A/C	XXX	XXX	By Cash A/C:		
To Process II A/C	XXX	XXX	Process I	XXX	XXX
			Process II	XXX	XXX
			By Costing P/L A/C		XXX
	XXX	XXX		XXX	XXX

Abnormal Gain Account

Particulars	Units	₹	Particulars	Units	₹
To Normal loss A/C	XXX	XXX	By Process II A/C	XXX	XXX
To Costing P/L A/C		XXX			
	XXX	XXX		XXX	XXX

Particulars	Units	₹	Particulars	Units	₹
To Process III A/C	XXX	XXX	By Sales A/C	XXX	XXX
To Selling expenses		XXX	By Abnormal gain A/C		XXX
To Abnormal loss A/C		XXX			
To Profit (b.f.)		XXX			
	XXX	XXX		XXX	XXX

2. Equivalent Production (Closing WIP Only)

Equivalent production: This concept is used in case of WIP units in process.

Step 1: Prepare process account as usual.

Step2: Prepare statement of equivalent production.

Step 3: Prepare statement of cost.

Step 4: Prepare statement of apportionment of cost or statement of evaluation (in case of abnormal gain or loss).

Step 5: Do complete process account.

Proforma Statement of Equivalent Production

Particulars	Units	Materials		Labour		Overhead	
		%	E.U.	%	E.U.	%	E.U.
Units introduced:							
Normal loss	XXX	-	-	-	-	-	-
Units completed	XXX	XX	XXX	XX	XXX	XX	XXX
Closing WIP	XXX	XX	XXX	XX	XXX	XX	XXX
Abnormal loss (If any)	XXX	XX	XXX	XX	XXX	XX	XXX
Less: Abnormal gain (If any)	(XXX)	(XX)	(XXX)	(XX)	(XXX)	(XX)	(XXX)
Total	XXX	-	XXX	-	XXX	-	XXX

If nothing is specified in the question:

➢   % of completion of Abnormal loss units   100%

➢   % of completion of WIP units:
         Materials   100%
         Labour   50%
         Overheads   50%

➢   % of material components   100%

Always:

➢   % of completion of Finished goods   100%
➢   % of completion of Abnormal gain   100%
➢   % of completion of Normal loss   0%

Proforma Statement of Cost

Elements	Cost	Eq. Units	Cost per unit
Materials	XXX (Net of scrap)	XXX	XXX
Labour	XXX	XXX	XXX
Overheads	XXX	XXX	XXX
Total Cost Per Unit			XXX

➢ Sale value of scrap of normal loss units is deducted from the cost of materials

Proforma Statement of Evaluation

Particulars	Elements	Equivalent units	Cost per unit	Total (₹)
1. Units completed	Materials	XXX	XXX	XXX
	Labour	XXX	XXX	XXX
	Overhead	XXX	XXX	XXX
				XXX
2. Closing WIP	Materials	XXX	XXX	XXX
	Labour	XXX	XXX	XXX
	Overhead	XXX	XXX	XXX
				XXX
3. Abnormal loss	Materials	XXX	XXX	XXX
	Labour	XXX	XXX	XXX
	Overheads	XXX	XXX	XXX
				XXX
4. Abnormal gain	Materials	XXX	XXX	XXX
	Labour	XXX	XXX	XXX
	Overheads	XXX	XXX	XXX
				XXX

3. Opening WIP with FIFO method:

➢ Only current period work is considered in statement of equivalent production.

➢ Cost of opening WIP is directly added to value of units completed.

➢ Normal loss, abnormal loss and abnormal loss units always from current units.

4. Opening WIP with Average method:

➢ Total work is considered in statement of equivalent production.

➢ Cost of opening WIP is added to current period cost element wise.

➢ No need to add cost of opening WIP to finished goods.

5. Inter Process Profit:

➢ One process transfer its output to other process on cost plus profit basis.

➢ Profit earned by each process department is used to evaluate performance of concern process department

CHAPTER 9 - JOINT PRODUCTS & BY PRODUCTS

1.   *Understanding of Chapter:*
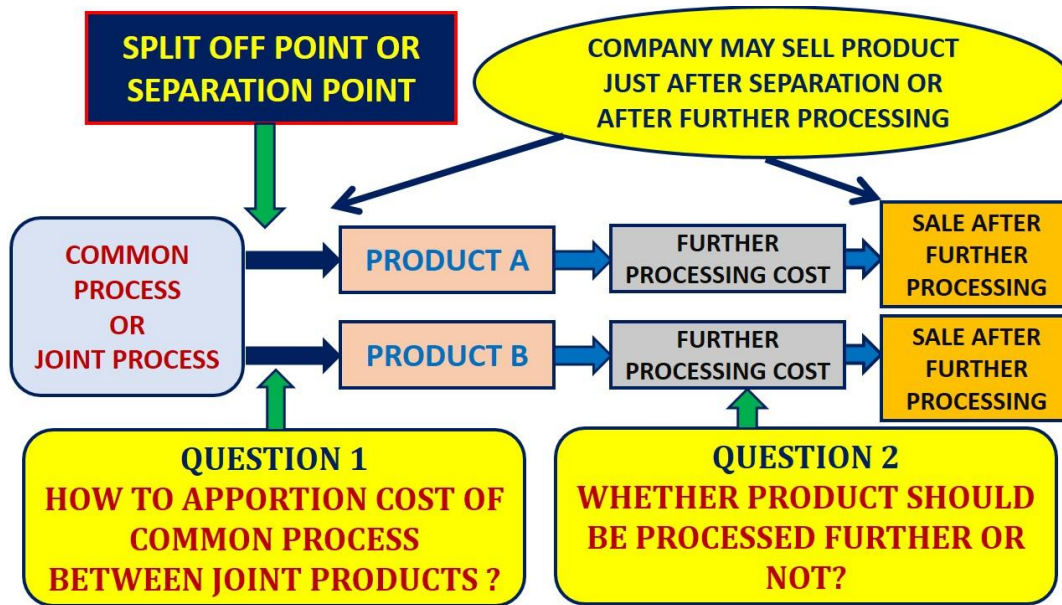
2.   *Methods of apportionment of joint cost:*

➤   Market value at separation point method:
Apportionment of joint cost on the basis of market value at separation point net of selling expenses at split off point (if any) of total output of products.

➤   Market value after further processing method:
Apportionment of joint cost on the basis of market value after further processing of total output of products.

➤   Net realisable value (NRV) method/ NRV at split off point method:
Apportionment of joint cost on the basis of net realisable value at split off point of total output of products.

NRV   =   Sale value after further processing – further processing cost – selling expenses etc.

➤   Physical unit method:
Apportionment of joint cost on the basis of physical units at split off point.

➤   Average unit cost method:
Apportionment of joint cost on the basis of average cost per unit.

Average unit cost   = $\dfrac{\text{Total Joint Cost}}{\text{Total Units at Separation Point}}$

➤   Contribution margin method:

Step 1: Apportionment of variable joint cost on the basis of physical units.

Step 2: Apportionment of fixed joint cost on the basis of contribution.

Note: Fixed cost will not be apportioned to product having zero or negative contribution.

➤   Reverse cost method:

Statement Showing Apportionment of Joint Cost
(Reverse Cost Method)

Particulars	Product A	Product B
Sale value after further processing	XXX	XXX
Less: Profit	XXX	XXX
Less: Selling expenses	XXX	XXX
Less: Further cost	XXX	XXX
Joint Cost	**XXX**	**XXX**

Note: If total joint cost mismatched with apportioned joint cost then apportion actual joint cost in proportion of apportioned mismatched joint cost.

➢ Constant gross margin method:

Step 1: First calculate constant percentage of profit (Profit = Total sales – Total cost)

Step 2: Use reverse cost method

3. **Further processing decision:**

Incremental revenue (IR) = Sale value after further processing – Sale value at separation Point

Incremental cost (IC) = Further processing cost + Selling expenses in case of further processing – Selling expenses at split off point

Situation	Further Processing Decision
1. IR > IC	Yes
2. IR = IC	Indifferent
3. IR < IC	No

4. **Treatment of by product:**

Situation 1: By product has commercial use: treat it as joint product.

How to trace:

➢ If question says to apportion cost to by product also
➢ If question says to calculate profit on by product also
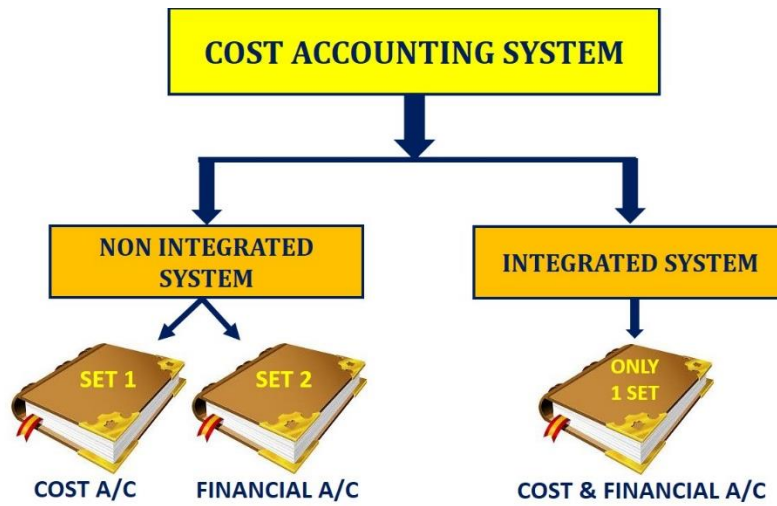➢ If question says by product has commercial use

Situation 2: By product don't have commercial use: treat it as scrap.

Step 1: Deduct sale value of by product from the joint cost.

Step 2: Apportion net joint cost among remaining main products.

CHAPTER 13 - COST ACCOUNTING SYSTEM

1. **Cost Accounting System:**

2. **Integrated Accounting System:** in this system only one set of books of account is maintained to records transactions related to cost account and financial account.

3. **Accounting in Integrated System:**

Store Ledger Control A/C

Particulars	₹	Particulars	₹
To Balance b/d	Op. Stock	By Purchase Return A/c	Return
To Purchases/Supplier A/c	Purchase	By WIP A/c	Direct Mat.
To WIP A/c	Return	By Production OH A/c	Indirect Mat.
		By Production OH A/c	Normal Loss
		By Costing P/L A/c	Ab. Loss
		By Balance c/d	Cl. Stock
	-		-

Wages Control A/C

Particulars	₹	Particulars	₹
To Bank A/c	Wages Paid	By WIP A/c	Direct Lab.
		By Production OH A/c	Indirect Lab.
		By Production OH A/c	Normal Idle
		By Costing P/L A/c	Ab. Idle
	-		-

Production Overhead Control A/C

Particulars	₹	Particulars	₹
To Bank A/c	OH Incurred	By WIP A/c	Recovered
To Depreciation A/c	Dep.	By Costing P/L A/c or	Under Recovery
To Store A/c	Ind. M + NL	By Balance c/d	
To Wages A/c	Ind. L + NL		
	-		-

Work-In-Progress A/C

Particulars	₹	Particulars	₹
To Balance b/d	Op. WIP	By Finished Goods A/c	Completed
To Stores A/c	Direct Mat.	By Balance c/d	Cl. WIP
To Wages A/c	Direct Lab.		

To Production OH A/c	Recovered		
	-		-

Administration Overhead A/C

Particulars	₹	Particulars	₹
To Bank A/c	OH Incurred	By Finished Goods A/c By Cost of Sales A/c By Costing P/L A/c	Prod. Related General Under Recov.
	-		-

Finished Goods Control A/C

Particulars	₹	Particulars	₹
To Balance c/d To Work-in-process A/c To Administration OH A/c	Op. FG Completed Prod Related	By Cost of sales A/c By Balance c/d	COGS Cl. FG
	-		-

Selling and Distribution Overhead A/C

Particulars	₹	Particulars	₹
To Bank A/c	OH Incurred	By Cost of Sales A/c By Costing P/L A/c	Recovered Under Rec.
	-		-

Cost of Sales A/C

Particulars	₹	Particulars	₹
To Finished Good A/c To Administration OH A/c To Selling OH A/c To Costing P/L A/c	COGS General S & D Profit	By Sales A/c	Sales
	-		-

Costing Profit & Loss A/C

Particulars	₹	Particulars	₹
To Stores A/c To Wages A/c To Production OH A/c To Administration OH A/c To Selling OH A/c To Net Profit	Ab. Loss Ab. Loss Under Rec. Under Rec. Under rec. Net Profit	By Cost of Sales A/c By Abnormal Gain and Over Recovery	Profit Ab. Gain
	-		-

4. ***Non Integrated Accounting System:*** in this system two sets of books of accounts are maintained to records transactions related to cost account and financial account.

5. ***Accounting in Non-integrated System:***

➢ In case of non-integrated accounting system cost records only recognize nominal account (material, labour, overheads etc.)

➢ For all transactions related to real account (bank, cash, assets etc.) and personal account (debtors, creditors, capital etc.) Cost record use a representative account viz.:

   ➢ Cost Ledger Control A/C (CLC) or
   ➢ Nominal Ledger Control A/C (NLC) or
   ➢ General Ledger Adjustment A/C (GLA)

Store Ledger Control A/C

Particulars	₹	Particulars	₹
To Balance b/d	Op. Stock	By CLC	Return
To CLC A/c	Purchase	By WIP A/c	Direct Mat.
To WIP A/c	Return	By Production OH A/c	Indirect Mat.
		By Production OH A/c	Normal Loss
		By Costing P/L A/c	Ab. Loss
		By Balance c/d	Cl. Stock
	-		-

Wages Control A/C

Particulars	₹	Particulars	₹
To CLC A/c	Wages Paid	By WIP A/c	Direct Lab.
		By Production OH A/c	Indirect Lab.
		By Production OH A/c	Normal Idle
		By Costing P/L A/c	Ab. Idle
	-		-

Production Overhead Control A/C

Particulars	₹	Particulars	₹
To CLC A/c	OH Incurred	By WIP A/c	Recovered
To Store A/c	Ind. M + NL	By Costing P/L A/c or	Under Recovery
To Wages A/c	Ind. L + NL	By Balance c/d	
	-		-

Work-In-Progress A/C

Particulars	₹	Particulars	₹
To Balance b/d	Op. WIP	By Finished Goods A/c	Completed
To Stores A/c	Direct Mat.	By Balance c/d	Cl. WIP
To Wages A/c	Direct Lab.		
To Production OH A/c	Recovered		
	-		-

Administration Overhead A/C

Particulars	₹	Particulars	₹
To CLC A/c	OH Incurred	By Finished Goods A/c	Prod. Related
		By Cost of Sales A/c	General
		By Costing P/L A/c	Under Recov.
	-		-

Finished Goods Control A/C

Particulars	₹	Particulars	₹
To Balance c/d	Op. FG	By Cost of sales A/c	COGS
To Work-in-process A/c	Completed	By Balance c/d	Cl. FG
To Administration OH A/c	Prod Related		
	-		-

Selling and Distribution Overhead A/C

Particulars	₹	Particulars	₹
To CLC A/c	OH Incurred	By Cost of Sales A/c	Recovered
		By Costing P/L A/c	Under Rec.
	-		-

Cost of Sales A/C

Particulars	₹	Particulars	₹

To Finished Good A/c	COGS	By CLC A/c	Sales
To Administration OH A/c	General		
To Selling OH A/c	S & D		
To Costing P/L A/c	Profit		
	-		**-**

Costing Profit & Loss A/C

Particulars	₹	*Particulars*	₹
To Stores A/c	Ab. Loss	By Cost of Sales A/c	Profit
To Wages A/c	Ab. Loss	By Abnormal Gain and Over	Ab. Gain
To Production OH A/c	Under Rec.	Recovery	
To Administration OH A/c	Under Rec.		
To Selling OH A/c	Under rec.		
To CLC A/c	Net Profit		
	-		**-**

Cost Ledger Control A/C

Particulars	₹	*Particulars*	₹
To Stores A/c	Return	By Balance b/d	Op. Balance
To Cost of Sales A/c	Sales	By Stores A/c	Purchase
To Balance c/d	Cl. Balance	By Wages A/c	Wages Paid
		By Production OH A/c	OH Incurred
		By Admin OH A/c	OH Incurred
		By Selling OH A/c	OH Incurred
		By Costing P/L A/c	Net Profit
	-		**-**

Notes:
- ➢ There is no posting in stores ledger for Material transferred between Jobs or Batches.

- ➢ Normal loss of material and normal idle time is to be transferred to Production Overheads A/C.

CHAPTER 14 - RECONCILIATION

1. ***Reconciliation:*** In case of non-integrated accounting system, we have to reconcile profit between two sets of books of account

   Step 1: Prepare financial profit and loss account

   Step 2: Prepare cost sheet or costing profit and loss account

   Step 3: Prepare reconciliation statement or memorandum reconciliation account

2. ***Reasons of Difference between Cost and Financial Accounts:***

   1. Items included in the financial accounts but not in cost accounts (purely financial items):

      ➢ Interest on loans or bank mortgages.
      ➢ Expenses and discounts on issue of shares, debentures etc.
      ➢ Other capital losses i.e., loss by fire not covered by insurance etc.
      ➢ Losses on the sales of fixed assets and investments
      ➢ Goodwill written off
      ➢ Preliminary expenses written off
      ➢ Income tax, donations, subscriptions
      ➢ Expenses of the company's share transfer office, if any
      ➢ Interest received on bank deposits, loans and investments
      ➢ Dividends received
      ➢ Profits on the sale of fixed assets and investments
      ➢ Transfer fee received
      ➢ Rent receivables

   2. Items included in cost accounts only (notional expenses):

      ➢ Charges in lieu of rent where premises are owned
      ➢ Interest on capital at notional figure though not incurred
      ➢ Salary for the proprietor at notional figure though not incurred
      ➢ Notional depreciation on the assets fully depreciated for which book value is nil

3. ***Items whose treatment is different in the two sets of accounts:***

   ➢ Difference in methods of valuation of stock.

   ➢ Difference in methods of depreciation etc.

CHAPTER 15 - ACTIVITY BASED COSTING

1. ***Traditional Absorption Costing V/S Activity Based Costing:***
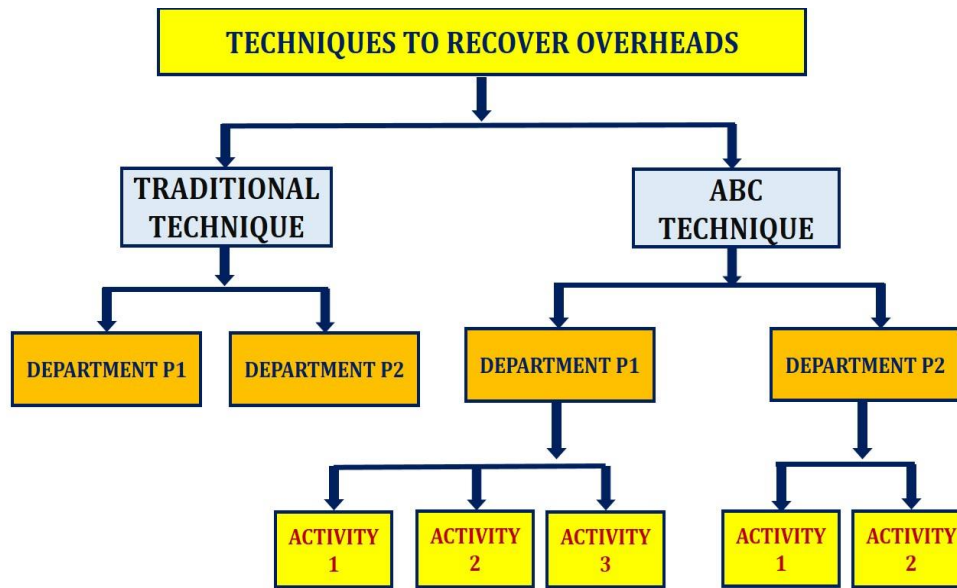
2. ***Activity Based Costing:*** Under ABC separate recovery rate of overheads is calculated for separate activity. ABC is also known as modern absorption costing method.

3. ***Activity:*** An event that incurs cost. Like: Packing and forwarding, inspection and testing etc.

4. ***Cost Pool:*** Group of various individual cost items related to any specific activity. Like: Group of various cost items related to packing and forwarding

5. ***Cost Driver:*** Basis of apportionment of cost related to any activity. Like: Number of parcels as apportionment base for packing and forwarding activity

6. ***Proforma Statement Showing Unit Cost and Total Cost Using ABC Method:***

Particulars	(₹)
Direct material	XXX
Direct labour	XXX
Prime cost	XXX
Production overhead:	
Activity 1 say Material procurement @ XXX per order	XXX
Activity 2 say Maintenance @ XXX per hour	XXX
Activity 3 say Set up @ per set	XXX
Total cost	XXX
÷ Number of units	XXX
Cost per unit	XXX

7. ***Proforma Statement Showing Determination of Cost Driver Rate:***

Activity Cost Pool	Cost Driver	Amount	Volume	Cost Driver Rate
Activity 1 Material procurement	Material orders	XXX	XXX	XXX per order
Activity 2 Maintenance	Maintenance hours	XXX	XXX	XXX per hour
Activity 3 Set up	No. of Set-ups	XXX	XXX	XXX per set-up