Chapter 2: Material Cost

Coverage:

1. **Material Cost and its allocation**
2. **Material Cost Control**
3. **Material Cost Control Techniques**
4. **Material Pricing and Store Ledger**
5. **Treatment of Material Loss**

1. MATERIAL COST AND ITS ALLOCATION

Particulars	Amount in (₹)
Purchase Price	xx
Less : Trade/Quantity discount	(xx)
	xxx
Add: Custom Duty (Only if, Credit not Available / Non refundable)	xx
	xxx
Add: GST & All other Taxes (Only if, Credit not Available / Non refundable)	xx
Add: All other related cost (e.g Brokerage, Commission, Freight, Insurance, Loading-Unloading)	xx
Total Cost	**xxx**
÷ Unit*	**xx**
Cost per unit	**xxx**

***Unit = Total unit – Normal loss – Provision for loss**

Note:

1. Cost of Container

a. Non- returnable – Add to cost

b. Returnable:

- Not to add to cost
- If less amount is refunded then balance (Cost – refunded amount) add to cost

2. Penalty, Demurrage, etc - Not to add to cost

2. MATERIAL COST CONTROL

Material control is a systematic control over the procurement, storage and usage of material so as to maintain an even flow of material.

3. MATERIAL COST CONTROL TECHNIQUES

a) Usage of Control Ratio:

a. Inventory Ratio:

i. Inventory Turnover Ratio = $\frac{\text{Mat. Consumed}}{\text{Avg. inventory}}$

ii. Holding Period = $\frac{365}{ITR}$

iii. Material Consumed = (Opening Stock + Purchase- Closing Stock)

*Higher Inventory Turnover Ratio – fast moving item

b. Input / Output Ratio:

- Compare actual consumption with standard
- Ratio of input material to production

b) Fixing of Inventory Level & EOQ:

a. Maximum Level: It is the maximum limit upon which stock can be stored at any time

ROL + ROQ - (Min consumption × Min Lead Time)

b. Re order Level: It is the level, when reached the order needs to be placed Maximum lead time × Maximum Usage
Or
Minimum level + (Average rate of consumption × Average time to obtain fresh supplies).
Or
Safety stock + Normal Usage

c. Minimum Level: It is the minimum quantity, which must be retained in stock
ROL- (Avg. consumption × Avg. Lead time)

d. Safety Stock = Re order level – Normal usage
Or
(Maximum usage – Average usage) x Lead time
Or
(Maximum Lead – Average Lead) x Average Consumed

e. Danger Stock: level where normal issue of materials is stopped, and only emergency materials are issued.
Danger level = Average consumption × Lead time for emergency purchases.

f. Average Inventory Level: Minimum level + 1/2 Re-order quantity
Or
= $\frac{\text{Maximum level + Minimum level}}{2}$

g. **EOQ**

Price Constant
(Formula Method)

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

Ordering cost = per Order
-Transport
-Order
Carrying cost= Per Unit Per Annum
-Store, interest, obsolete
- % of Purchase Price

At Different Price Level
(Trail & Error Method)
Table i.e EOQ – where material cost is low

Material Cost
Purchase Cost
+ Ordering Cost
+ Carrying Cost
xxx

Note: *Some other material cost control techniques are given in point no. 6.*

4. MATERIAL PRICING AND STORE LEDGER

Store Ledger

Date	Particular	Receipt			Issue			Balance		
		Qty.	Rate	₹	Qty.	Rate	₹	Qty.	Rate	₹

Particulars	LIFO	FIFO	Weighted Avg.
Purchase	Specific	---Do---	---Do---
Issue	Last In First Out	First In First Out	Balance stock at avg. price (Amt/Qty)
Shortage/Embezzlement (Abnormal Loss)	Same as Issue	Same as Issue	Same as Issue
Inter Dept/ Job transfer	No entry reqd.	No entry reqd.	No entry reqd.
Returned to Vendor	1.Specific rate	1.Specific rate	1.Specific rate
	2.Latest Purchase	2.Latest Purchase	2.Latest Purchase
Replacement (purchase)	Original Purchase	---Do---	---Do---
Return from Store	1.Specific rate	---Do---	1.Specific date rate
	2.Last Issues rate	---Do---	2.Last Issues rate

Material Pricing

Cost price method:	Average Method:	Notional Price Method:
a. Specific cost b. LIFO c. FIFO d. HIFO e. Base Stock	a. Simple Average b. Weighted Average c. Periodic Simple Average d. Periodic Weighted Average e. Moving Simple Average f. Moving Weighted Average	a. Standard Price: i. Current Standard ii. Base Standard b. Inflated (Cost + Evaporation) c. Market Price: i. Realizable Value ii. Replacement Value

5. TREATMENT OF MATERIAL LOSS

i. Wastage:

a. Normal Loss: borne by good units.
b. Abnormal Loss: Transfer to costing P/L.

ii. Scrap:

a. Normal Loss:

- borne by good units.
- Income from scrap:
  - Reduce material cost.
  - Credit costing P/L.

b. Abnormal Loss:

- Transfer to costing P/L.
- If there is Net Realization Value- credit to production overhead.
- If related to a particular Job, charge to that job.

S. No.	Waste	Scrap
1	It is connected with Input	It is connected with Output
2	It may be visible/invisible	Generally, it is visible
3	Generally, it has no realizable value	It has small realizable value

iii. Spoil:

- No further processing.
- Heavily damaged / manufacturing defect.

a) Normal Loss:

- Borne by goods products.
- Charge to Production overhead and spread to all product.

b) Abnormal Loss:

- Transfer to costing P/L.
- If related to a particular job, charge to that job.

iv. Defective (can be further processed):

(a) Normal Loss: charge to good units.

(b) Abnormal Loss:

- Transfer to costing P/L.
- If related to a particular job, Charge to that job.

If rectifiable: Cost of rectification shall be

- Charge to particular department.
- Factory overhead.

S. No.	Scrap	Defective
1	It is connected with Output	It is connected with Input / Output
2	Generally scrap are not used or Rectified.	It can used after rectification.

v. Obsolesce: Decrease Intrinsic Value of items

- It is an abnormal loss.
- Treatment: Dispose-off at best available price.

6. SOME OTHER MATERIAL COST CONTROL TECHNIQUES:

a) Min-Max Plan:

- Oldest method
- Lay down Min & Max. level
- Re order at minimum level & receiving order becomes max. level
- EOQ, identification of High-values & Critical items not considered.

b) 2 Bin System: Under this system each bin is divided into two parts - one, smaller part, should stock the quantity equal to the minimum stock or even the re-ordering level, and the other to keep the remaining quantity.

c) Order Cycling Period:

- Stock is reviewed periodically (say 30 days, 60 days, 90 days)
- Place order if item is not sufficient for next review date after considering depletion rate.
- In case of critical items, there should be short review

Limitations:

- It does not considered different depletion rate.
- Procurement & purchase activities reach their peak around review date.

d) JIT: it is a system of inventory management with an approach to have a zero inventories in stores. According to this approach material should only be purchased when it is actually required for production.
JIT is based on two principles

(i) Produce goods only when it is required and

(ii) The products should be delivered to customers at the time only when they want.

e) ABC Analysis: Items are classified into the following categories:

Categories	Descriptions	Control
A	Quantity less than 10 % but value more than 70 %	Strict
B	Quantity less than 20 % but value about 20 %	Moderate
C	Quantity about 70 % but value less than 10%	Low

f) Review of slow moving & non-moving items (FSN Analysis):

Under this system, inventories are controlled by classifying them on the basis of frequency of usage.

(i) Fast Moving- This category of items are placed nearer to store issue point and the stock is reviewed frequently for making of fresh order.

(ii) Slow Moving- This category of items are given stored little far and stock is reviewed periodically for any obsolescence and may be shifted to Non-moving category.

(iii)Non Moving- This category of items are kept for disposal. This category of items is reported to the management and an appropriate provision for loss may be created.

g) Perpetual Inventory Systems & Continuous Stock Verification:

Perpetual inventory represents a system of records maintained by the stores department. It in fact comprises: (i) Bin Cards, and (ii) Stores Ledger.
The **system of continuous stock-taking** consists of physical verification of items of inventory.

Bin Card	Stores Ledger
It is maintained by the storekeeper in the store.	It is maintained in cost accounting department.
It contains only quantitative details of material received, issued and returned to stores.	It contains information both in quantity and value.
Entries are made when transaction takes place.	It is always posted after the transaction.

Each transaction is individually posted.	Transactions may be summarized and then posted.
Inter-department transfers do not appear in Bin Card.	Material transfers from one job to another job are recorded for costing purposes.

h) Vital, Essential and Desirable (VED):

Under this system of inventory analysis, inventories are classified on the basis of its criticality for the production function and final product.

Categories	Description	Control
Vital	Items are classified as vital when its unavailability can interrupt the production process and cause a production loss.	Strict
Essential	Items under this category are essential but not vital.	Moderate
Desirable	Items under this category are optional in nature, unavailability does not cause any production or efficiency loss.	Low

(i) Vital-

(ii) Essential- Desirable-

Chapter 3 – Employees Cost and Direct Expenses

COVERAGE:

1. **Labour Cost and its Allocation**
2. **Classification of Labour**
3. **Labour Turnover**
4. **Labour Efficiency**
5. **Method of Remuneration**
6. **Treatment of Idle Time**
7. **Treatment of Overtime**
8. **Accounting and Control of Labour Cost**

1. LABOUR COST

- Monetary benefit (Wages, Salary, etc.)
- Deferred monetary benefit (PF, Gratuity, etc.)
- Fringe / Perquisite (HRA, Car Allowance, etc.)

2. CLASSIFICATION

a) Direct Labour Cost (Part of Prime Cost)
b) Indirect Labour Cost (Part of Production overhead)

Practical:

(a) Effective hourly cost of employees = Total Wages / effective hours (i.e. total-normal idle hrs)

Total wage/ Employee Cost = Gross wages (Basic+ DA + Other) + Employer contribution (PF/ESI)

Note: Overtime premium charge to particular job

(b) Earning

Gross Wages	xx
Overtime	xx
Less: Contri. PF/ESI	(x)
	xx

Note: Overtime hrs > 9 hrs/ day or 48 hrs / week.(As per Factory Act)

(c) Effective earning for worker = Total Earning / Actual Hour

3. LABOUR TURNOVER

- **Methods**

(a) Replacement Method = No. of workers replaced / Average no. of workers x 100

(b) Separation Method = No. of workers Separated* / Average no. of workers x 100

*Where, Separation = Replacement + Other Left

(c) Flux Method = $\frac{\text{No. of Separation + No. of accessions**}}{\text{Average number of workers}} \times 100$

**Where Accession = Replacement + New Appointment

Note: Labour at the end = Labour at Beginning + Accession – Separation

= Labour at Beginning + New Appointment – Other Left

- **Causes**

(a) Personal Causes:

a. Change of jobs for betterment.
b. Premature retirement due to ill health or old age.
c. Domestic problems and family responsibilities.
d. Discontent over the jobs and working environment.

(b) Unavoidable Causes:

a. Seasonal nature of the business;
b. Shortage of raw material, power, slack market for the product etc.;
c. Change in the plant location;
d. Disability, making a worker unfit for work;
e. Disciplinary measures;
f. Marriage (generally in the case of women).

(c) Avoidable Causes:

a. Dissatisfaction with job, remuneration, hours of work, working conditions, etc.,
b. Strained relationship with management, supervisors or fellow workers;
c. Lack of training facilities and promotional avenues;
d. Lack of recreational and medical facilities;
e. Low wages and allowances.

- **Remedies**

(a) Exit interview
(b) Job analysis & evaluation
(c) Use of Committee
(d) Healthy working condition
(e) Scientific system of recruitment, placement & promotion

- **Cost of Labour Turnover**

(a) Preventive Costs

- E.g. Welfare expense, pension, PF, medical services, etc.

(b) Replacement Costs

- E.g. Decline in output & quality, waste, scrap, defective, recruitment selection and training expense, etc.

4. LABOUR EFFICIENCY RATIO = $\frac{\text{SH}}{\text{AH}} \times 100$

Or

= $\frac{\text{AO}}{\text{SO}} \times 100$

5. METHOD OF REMUNERATION:

a) Time Rate (AH x Rate): Differential, Guaranteed & High Wages Plan

b) Payment by result:

i. Piece rate (Actual Output x Rate)

ii. Piece rate or Guaranteed wages

c) Incentive scheme:

i. Premium Bonus:

- **Halsey**

  [(AH. x Rate) + (50% x Time saved x Rate)]

- **Rowan**

  [(AH x Rate) + (AH x Rate x Time saved/SH]

Note: ***Some other premium bonus plan (not relevant for examination)***

1) Gnatt's Tax Bonus

Output	Payment
Below Standard	Time Rate
At Standard	120% of Time Rate
Above Standard	120% of Piece Rate

2) Emersion

Efficiency	Payment
Below 66.67%	Time Rate
66.67% - 90.00%	Time Rate + 10%
90.00% - 100.00%	Time Rate + 20%
Above 100.00%	120% Time Rate + 1% for every increase in 1 % in efficiency above 100

ii. Differential Piece Rate: ***(Not relevant for examination)***

- **Taylor's**

Efficiency	Wages
Below 100	Piece rate x 80%
At or Above 100	Piece rate x 120%

- **Merrick**

Efficiency	Wages
Up to 83.33%	Piece rate
83.33 – 100%	Piece rate x 110%
Above 100%	Piece rate x 120%

6. TREATMENT OF IDLE TIME:

The time during which no production is carried-out because the worker remains idle but are paid.

- **Classification of Idle Time**

(a) Controllability:

(i) Normal idle time

Causes	Treatment
1. The time lost between factory gate and the place of work,	It is treated as a part of cost of production. So , adjusted in labour rate
2.The interval between one job and another, 3. The setting up time for the machine, 4. Normal rest time, break for lunch etc.	In case of indirect workers, normal idle time is considered for the computation of overhead rate.

(ii) Abnormal idle time

Causes	Treatment
1. Idle time may also arise due to abnormal factors like lack of coordination 2. Power failure, Breakdown of machines 3. Non-availability of raw materials, strikes, lockouts, poor supervision, fire, flood etc.	*Abnormal idle time* cost is not included as a part of production cost and is shown as a separate item in the Costing Profit and Loss Account.

(b) Function:

1. **Productive Cause:** e.g. breakdown, power failure, waiting for raw material, etc
2. **Administrative Cause:** e.g. poor planning, unutilised capacity, improper instructions, etc
3. **Economic Cause:** e.g. lockout, strike, lack of demand, etc.

7. TREATMENT OF OVERTIME

Reasons of overtime:

1. Seasonal rush
2. New order
3. Unavoidable reason

Treatment:

Causes	Treatment
Related to Particular Job	Charge to Particular job
Negligence of particular department	Charge to particular department
Shortfall in production	General overhead
Circumstances beyond control (e.g Flood, Earthquake, etc)	Dr. to Costing P/L
Regular Company's policy	Increase in Labour Rate

8. ACCOUNTING AND CONTROL OF LABOUR COST

It involves 3 activities:

1. Time keeping
2. Calculation of Payroll
3. Allocation payroll cost to dept.

Time Recording

Time Keeping
*Recording attendance & Calculation of wages

Method

(a) Manual
- Attendance register
- DISC Method

(b) Mechanical

Time- Booking
* Record from utilised point of view- Cost Analysis

Method

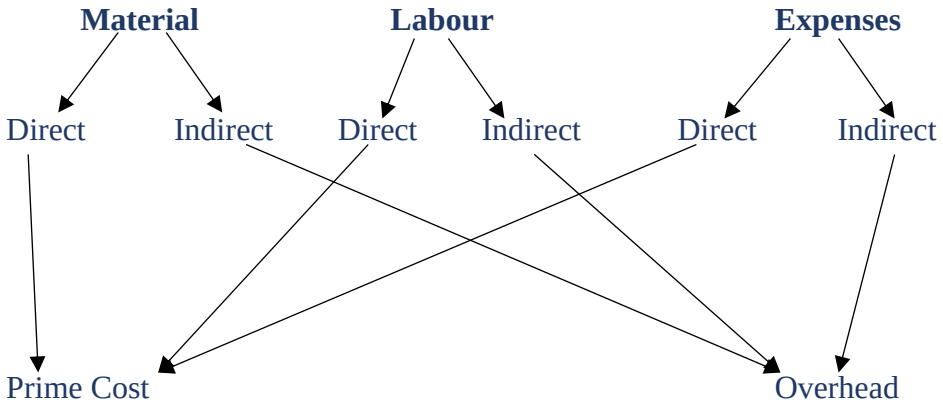
(a) Daily time sheet
(b) Weekly time sheet
(c) Job Cards

Chapter. 4: Overhead- Absorption Costing Method

1. BASIC CONCEPT:

A. Meaning:

- Indirect cost that cannot be allocated to specific product, job, process, etc.
- Indirect material, indirect labour, indirect expense.



B. Direct Cost V/s Overhead

S. No.	Direct Cost (Prime Cost)	Overhead
1.	Attributed to specific job, process, product.	It cannot be attributed to specific job, process, product.
2.	Generally Variable.	It may be variable or fixed.
3.	Part of Prime Cost.	Part of Factory Cost/COGS.
4.	E.g. Direct Material, Direct Labour, Direct Expense.	E.g.. Rent, Dep., Salary, etc.

C. Classification

Element	Function	Behaviors
Indirect material	Production Overhead	Semi-Variable
Indirect labour	Administration Overhead	Fixed
Indirect expense	Selling & Distribution Overhead	Variable
	Research & Development Overhead	

COVERAGE

1) Primary Distribution-

a. Allocated
b. Apportioned (Basis)

2) Secondary Distribution-

a. Direct Redistribution
b. Step/Ladder/Non-Reciprocal
c. Reciprocal:
   - **i.** Simultaneous Equation
   - **ii.** Repeated distribution

iii. Trail & error.

3) **Absorption/Recovery Rate**
   a. Recovery Rate Calculation.
   b. Absorption of overhead
   c. Treatment of over/under Absorption
4) **Production Capacity**
   a. Max./Rated/Installed
   b. Practical
   c. Normal/Average
   d. Actual
5) **Machine Hour Rate**

   = Overhead
   M. Hrs.
6) **Treatment of various items:**
   a. Idle Time
   b. Interest on Capital
   c. Employee Welfare Cost
   d. Bad Debts
   e. R&D Expenditure
   f. Unsuccessful R&D Cost
   g. Depreciation & Obsolescence
   h. Material Handling Cost
   i. Training Cost
   j. Packing
   k. Notional Rent

1. **PRIMARY DISTRIBUTION:** Distribution of overhead to various cost center/ dept.
   - **i. Allocation:**
     - Charging identifiable indirect cost to particular department / cost center.
     - Indirect cost if not allocated, it is apportioned.
   - **ii. Apportionment:**
     - Distribution of Overhead to various cost center/ department on some equitable basis.

Overhead	Basis
Rent, Repair of Building, Lighting & Heating, Air-conditioning, Fire precaution service.	Floor Area/Volume of Department.
Depreciation, Repair & Maintenance, Insurance, Gen. Machine exp., Insurance of Stock.	Assets Value
Time-Keeping, Canteen, Welfare Expense, Supervision, Perquisite, Personal OH.	No. of Worker
Indirect Expenses: 1. *Indirect Material* 2. *Indirect Labour*	 Direct Material Direct Labour
ESI/ PF/ Perquisite/ Compensation/ Holiday Pay	Direct Labour / Wages Bill
Power	HP x MH / HP
Electricity/ Lighting	Light Point/ Area/ Meter Unit

Service Department:

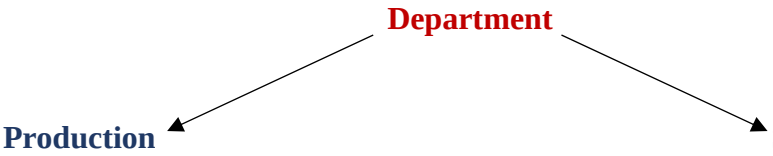
Store Dept./Material Handling	Material Requisition/DM
Purchase Dept.	No. of Purchase Order/ Material Purchase
Personnel Dept.	No. of Employees

Statement of Primary Distribution

Particulars	Basis	D1 (P)	D2 (P)	D3 (S)
1. **Allocation**				
Exp1	-	xx	xx	xx
Exp2	-	xx	xx	xx
2. **Apportionment**				
E1 (Rent)	Area	xx	xx	xx
E2 (Welfare)	No. of Worker	xx	xx	xx
		xxx	**xxx**	**xxx**

Note:
Variable overhead – Apportion based on actual capacity used
Fixed overhead – Apportion based on budgeted capacity.

2. SECONDARY DISTRIBUTION



*It produces unit.
*Overhead are charged on units

*Helps production department
*Overhead charged on Production department

i. Direct Distribution:

***Overhead of Service Dept. are directly distributed to production department (even if service provided to other service department).
***Direct expenses of service dept. is overhead of production department

Particulars	₹	Base	P1	P2	P3
A. Primary Distribution	-	-	xx	xx	xx
B. Secondary Distribution					
S1 *Office	10,000	No. of Workers	xx	xx	xx
S2 *Canteen	1,20,000	No. of Worker	xx	xx	xx
			xxx	**xxx**	**xxx**

ii. Step/Non-Reciprocal Method:

*Sometimes 1 service dept. may provide service to other service dept. (S2 & S3) but does not receive back any service.
*Sequence of re-distribution- most serving to least serving.

Particulars	P1	P2	S1	S2	S3
A. Primary Distribution	xx	xx	xx	xx	xx
B. Secondary Distribution					
S1 (Most)	xx	xx	-	xx	xx
				xx	
S2 (Less)	xx	xx	-	-	xx
S3 (Least)	xx	xx	-	-	-
			xxx	**xxx**	**xxx**

Apportionment Basis

	P1	P2	S1	S2	S3
S1	20%	20%	-	40%	20%
S2	30%	40%	-	-	30%
S3	50%	50%	-	-	-

iii. Reciprocal:

When service department give & take service from each other.

a) Simultaneous Eqⁿ:

	P1	P2	S1	S2
S1	60%	35%	-	5%
S2	10%	40%	50%	-

Step-I = Calculation of Gross Overhead.

S1= Own + 50% of S2 ------ 1,50,000

S2= Own + 5% of S1-------- 2,80,000

Secondary Distribution

Particulars	P1	P2
i. Primary Distribution	xx	xx
ii. Secondary Distribution		
S1- 1,50,000	60% 90,000	35% 52500
S2- 2,80,00	10% 2,80,000	40% 1,12,000

b) Repeated Distribution:

Step-I

S1 Overhead DISTRIBUTE TO → P1 P2 S2

S2 (Own + S1's Share) DISTRIBUTE TO → P1 P2 S1

Step-II

Continue step-I till distribution becomes negligible.

Particulars	P1	P2	S1	S2
I. Primary	xx	xx	xx	xx
II. Secondary				
S1	xx	xx	-	xx
				xx
S2	xx	xx	xx	-
S1	xx	xx	-	xx

c) Trial & Error:

Step-I: Calculate gross overhead by Repeated Distribution.

Particulars	S1	S2
A. Primary Distribution (let say S1=40,000 & S2= 50,000).	40,000	50,000
Apportionment S1 (5% of 40,000)	-	2000

S2 (50% of 52,000) S1 (5% of 26,000) S2 (50% of 1,300)	26,000 - 750	52,000 - 1,300 -
	xx	**xx**

Step-II: Secondary Distribution same as Simultaneous Eq^{n} method:

3. ABSORPTION/RECOVERY RATE (RR)

a. Recovery Rate Calculation:

Charging overhead to individual product/service/job based on Recovery Rate.

$$\text{Recovery Rate} = \frac{\text{Budgeted Overhead}}{\text{Budgeted base}^{*}}$$

*Actual base may be taken if there is abnormal increase or decrease in production.

Methods:

1) **Physical units**
2) **Multiple/Blanket:**

Blanket = $\frac{\text{Overhead of entire factory}}{\text{Base}}$ (Single RR for whole factory overhead)

Multiple = $\frac{\text{Overhead each Dept.}}{\text{Base of each Dept}}$

3) **Time Base:**
   - Machine Hrs.
   - Labour Hrs.
   - Combo of (Machine Hrs. and Labour Hrs.)
4) **% Base:**
   - % of DM
   - % of DL
   - % of Prime Cost

b. Absorption:

Particular	Amount
DM + DL + DE (Prime Cost)	xx
Add: Factory overhead (Based on RR)	xx
Cost per unit	xx

c. Treatment of Over / Under Absorption:

Recovered: overhead recovered based on Recovery Rate on all units produced.

Minus (-)

Actual: At the end of each costing period- actual overhead is identified.

Note:

a. Recovered < Actual = under-recovery
b. Recovered > Actual = over-recovery.

Treatment

1. Transfer to Costing P/L

Factory OH.

To Bank (Actual)	By WIP Control (Absorbed)
To Costing P/L (over-recovery)	By Costing P/L (under-recovery)

2. Carried Forward (C/F):
Under/Over recovery transfer to overhead suspense A/c & C/F to next Costing P/L.

3. Uses of Supplementary Rate:
SR = Amt. of under/over recover
Base (Production Unit)

Recovered	6,00,000
Less: Actual overhead (Exclude abnormal cost- compensation, Prior period, obsolete, strike, court order)	(5,40,000)
Over/(Under) Recovery	60,000

Balance ¾ = 45,000
SR = 45,000
Prod^{n} units
= P.U.

Abnormal ¼ = 15,000
Abnormal Reasons: Fire, strike, accident, defective policy etc.

Particulars	Units	Amount
C/S (Finished Goods)	xx	xx
WIP	xx	xx
Sold	xx	xx

- Over-recovery – less from cost of C/S, WIP, COGS.
- Under-recovery – add to cost of C/S, WIP, COGS.

4. TYPES OF CAPACITY

i. **Max./Installed/Rated:** 70%, 80%, Spare, etc.
*No idle items, holidays, repairs, etc.
*365 x 8 hrs./day = 2920

ii. Practical:

Max.	= 2920
Less: Sunday (52 x 8)	= 416
Less: Holidays (13 x 8)	= 104
Less: Idle Time	= 200
Less: Repair/Breakdown	= xx
Set-up time	= 2200

iii. Average/Normal: Based on past period.

iv. Actual: Capacity actually attended in costing period.

5. TYPES OF OVERHEAD RATES:

i. **Normal Rate** = Actual overhead / Actual Base

ii. **Pre-determined overhead rate** = Budgeted overhead. / Budgeted Base

iii. **Blanket overhead rate** = Overhead for Factory / Base for Factory

iv. **Dept. (Multiple)** = Overhead of each Dept. / Base of each Dept.

6. MACHINE HOUR RATE:

= Total Overhead / Effective M Hrs. (for a particular period)

Total Overhead:

Fixed Overhead / Standing Charges	= xx
Variable Overhead / Running	= xx
	= xx

Effective M Hrs.

Total M Hrs.	= xx
Less: Repair & Maintenance	= (x)
Less: Normal idle time	= (x)
Less: Set-up (if non-productive) (generally when it is small)	= (x)
Less: Leave (with/without pay)	= (x)
	= **xx**

Note:

1. Machine will not in use when as employee is on leave.
2. Leave due to strike, lock-out, is abnormal- not to be deducted for effective M Hrs. (under recovery shall be debited to Costing P/L – Loss).

7. TREATMENT OF VARIOUS ITEMS:

a.

Idle Time	Treatment
Normal / Unavoidable (Repair, Changeover of Job)	Use supplementary rate to recover idle capacity cost.
Abnormal/Avoidable (Power failure, R&M, Shortage, Planning, Fault, Strike)	Dr. to Costing P/L
Seasonal factor	Charge to COP by inflating overhead rate
Trade depression	Dr. to Costing P/L

b. Interest on Capital: Disputed concept (can be included/ may not be)

Include	Exclude
Rewards to Capital	Depends on Organisation's Policy
Opportunity factor	Difficult to Apportioned
Capital Investment Decision	-

c. Employee welfare: charge to production department based on no. of employees.

d. Bad Debts:

View-1

*Normal -Recovered on S&D Overhead.
*Abnormal - Costing P/L.

View-2

*Financial Loss – Ignore.

e. **Training Cost:** It is overhead of Service Department – Apportioned to Production Department.

f. **Chargeable Expense:** Part of Prime Cost (Direct Expense) (e.g. Royalty, Hire Charges, Drawing & Design, Software).

g. **Insurance of Stock:** Apportioned based on Direct Material value.

h. **Packing:**
   a. Primary Packing– Part of Cost of Production.
   b. Secondary Packing – Selling & Distribution Overhead.

i. **Small Tools:**
View-1: Cost Charge to Department using it.
View-2: *Revalue and difference (Original Cost – Revalued value) Charge to Prod^{n} OH.
*Charge depreciation over life:
   a. Factory Overhead
   b. Overhead of respective department.

j. **Depreciation:**
   i. Factory Overhead
   ii. Apportioned to dept. based on Assets Value.

k. **Material Handling Cost:**
   i. Apportioned based on physical qty. stored in factory.
   ii. Store OH shall be charge to RM & Finished Goods store based on issue rate.

l. **Research & Development:**

Cases	Treatment
Applied Research expense (for existing product)	Manufacturing Overhead
Basic Research Cost (continuous activity)	1. Charge to Revenue of concern dept. 2. If amt. large – Over the period.

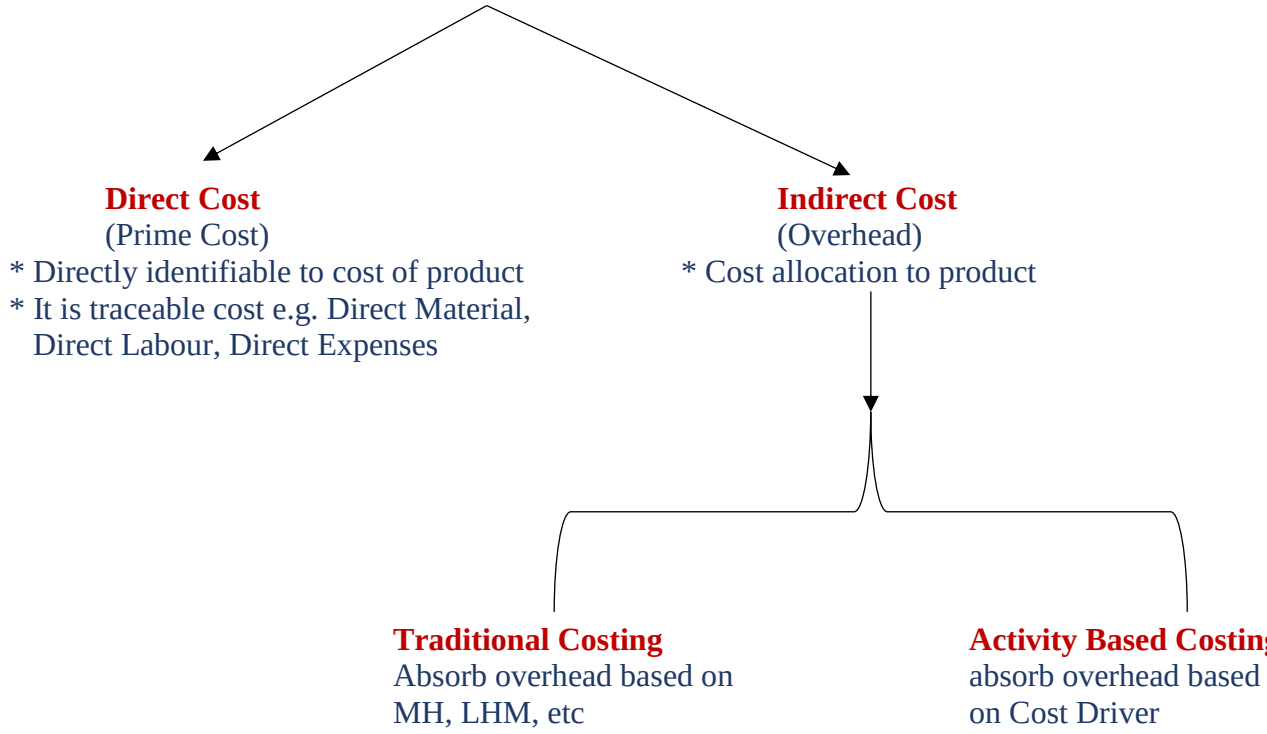
m. **Unsuccessful Research & Development Cost:**

Cases	Treatment
Expense is normal & budgeted	Factory Overhead
If expense is not budget	Write off in P/L

Note: If research is extended for long period, some failure cost is spread over successful research.

Chapter. 5:- Activity Based Costing

1. COST ASCERTAINMENT



2. MEANING:

a. Activity: event/action that incur cost.

b. Cost object: product/service/job etc. whose cost is ascertained.

c. Cost driver: factor that cause change in cost of activity (activity की cost, cost driver पर depend होता है)

d. Cost pool: it represent group of various individual cost item. (यह है statement जहां cost and activity होती है **)**

3. CLASSIFICATION OF ACTIVITIES:

(a) Unit Level

- Activity for each unit.
- Use of indirect Material, consumables, etc

(b) Batch Level

- Activity for batch.
- Setting equipment, material ordering, inspection etc.

(c) Production sustaining Level

- Activity that support entire production line.
- Designing, producing part specification, technical drawing of product up to date, etc.

(d) Facility Level

- Activity that helps entire production line
- Manager salary, plant maintenance, tax compliances, etc.

4. FUNCTIONS AND THEIR COST DRIVER

S No.	Functions	Cost Drivers
1.	R&D	No. of research project
		Personnel hours
		Technical complexity of project
2.	Customer service	Service call, Product service, Hours spend on serving etc
3.	Designing of product, services & process	No. of product design
		No. of parts per project
		No. of Engineering hours
4.	Marketing	No. of advertisement, sales, personnel, sales revenue etc
5.	Distribution	No. of units distributed
		No. of customers
6.	Set-up	No. of Setups, Production run- hours
7.	Inspection	No. of setups, Inspection hours
8.	Store	No. of Requisition
9.	Packing	No. of Delivery
10.	Assembling/Painting	No. of Parts
11.	Machine Cost	Machine Hours
12.	Ordering	Purchase Order
13.	Supervising cost (This is indirect labour cost)	Direct Labour Hours

5. ACTIVITY BASED COSTING V/S TRADITIONAL COSTING

S No.	Activity Based Costing	Traditional Costing
1.	Overheads are related to activity	Overheads are related to cost center/department
2.	More realistic	Not realistic of cost behavior
3.	Activity-wise cost drivers are determined	Hours (M Hrs/ L Hrs) are assumed to be cost driver
4.	Overhead absorbed based on cost driver	Overhead absorbed based on M Hrs, L Hrs, etc

6. CALCULATION OF COST OF PRODUCT/JOB/SERVICES ETC.

Illustration:

Particulars	Amount in (₹)	Activity	No. of Activity
Set-up Cost	2,00,000	No. of Set-ups	100,000
Machine Cost	2,00,000	Machine Hours	50,000
Store Cost	1,00,000	No. of Requisition	20,000
Total	**5,00,000**		

Detail of Product-X

Particular	No. of Activity
No. of Set-ups	3
Machine Hours	1.5
No. of Requisition	1

DM = 6 and DL = 4.

Solution:

a) Traditional costing

Step-1 Overhead/hours = Total Overhead / M Hrs/ L Hrs = 5,00,000 / 50,000 = 10

Step-2 Product cost 'X'

DM	xx	6
DL	xx	4
+ OH	xx	15
(No. of hours x OH/Hrs)		
1.5 x 10	xx	25

b) ABC

1. Statement of cost pool

Particulars	₹	Activity	Total Activity	Cost/activity
Set-up Cost	200,000	No. of Set-ups	100,000	2
Machine Cost	200,000	Machine Hours	50,000	4
Store Cost	100,000	No. of Requisition	20,000	5

2. Statement of Cost

		Product-X (cost object)
DM	=	6
DL	=	4
OH		
Set-up	=	6
M. Hrs	=	6
Store	=	5
		27

Chapter. 6: Cost Sheet

A. COST SHEET

PARTICULARS	(₹)	(₹)
Direct Material Consumed		
Opening stock of raw material	xx	
Add: Direct Material-Purchased	xx	
Less: Closing Stock Of Raw Material	xx	
		xxx
Add: Direct Labour		xx
Add: Direct Expenses		xx
Prime Cost		**xxx**
Add: Factory/ Works/Product Overheads		xx
Gross Work Cost		**xxx**
Add : Opening stock of WIP		xx
Less: Closing stock of WIP (Valued on Gross Work Cost)		(xx)
Work Cost		**xxx**
Add: Research and Development cost Quality control cost Primary packing		**xxx**
Add: Administration Or Office overheads (Related to Production)		xx
Less: Credit Scrap/ By product/ Recoveries/ Misc. income		(xx)
Cost of Production		**xxx**
Add: Opening Stock of finished Goods		xx
Less: Closing Stock of finished Goods (Valued on Cost of Production)		(xx)
Cost of Goods Sold		**xxx**
Add: Administration Or Office Overheads (General Overhead)		xx
Add: Selling & Distribution Overhead / Secondary packing		xx
Cost of Sale		**xxx**
Add: Profit		**xxx**
Sale		**xxx**

***Notes**

1. **Direct Labour**
   - Wages / salary
   - Allowance / perquisites
   - Over time
   - EPF/PF/ Welfare fund
2. **Direct expenses**
   - Royalty
   - Hire charges of equipment
   - Specific software, drawing & design cost
   - Expenses directly related to production.
3. **Administrative Overheads**

Related to Production (Part of Cost of Production)

General Administrative Overhead (Assume) (Part of Cost of Sale)

Example of Administrative overhead:

- Depreciation and maintenance of building, furniture, etc. of corporate or general management.
- Salary of administrative employee, accountant, director, etc.
- Rent, Insurance, Lighting, Office expense, etc.

4. Selling & Distribution Overhead

Selling overhead	Distribution Overhead
• Salary	* Salary
• Rent / Depreciation of Vehicle, Building, etc of Sales Department	* Rent/Depreciation of Vehicle, Building, etc of Sales Department.
• Advertisement	
• Market research	
• Website cost	

5. Factor overhead cost

- Depreciation / Repair & Maintenance / Insurance of Factory Assets.
- Rent of factory, Production Assets, etc.
- Insurance of Raw Material, WIP, etc
- Amortization of Jig, Tools, etc.
- Consumable store & space
- Foreman Salary, Supervisor Salary
- Drawing & Design Department cost

B. PRODUCTION ACCOUNT

Production Account

Particular	Amount (₹)	Particular	Amount(₹)
To opening raw material To purchases To direct wages	xxx xxx xxx	By closing raw material By prim cost	xxx xxx
To prime cost To factory overhead To opening WIP	xxx xxx xxx	By closing WIP By factory cost	xxx xxx
To factory coat To administration overhead (product)	xxx xxx	By Cost of production	xxx
To Cost of production To opening finished stock	xxx xxx	By closing stock finished stock By cost of goods sold	xxx xxx
To cost of goods sold To selling & Distribution overhead To secondary packing To profit	xxx xxx xxx xxx	By sale	xxx

C. DIFFERENCE

Production Account	Cost sheet
• It is Based on double entry • It has Accounting presentation • It is less detailed i.e Cost shown in aggregate manner • It is useful for tender / quotation.	• It is not Based • It has Costing presentation • It is detail presentation of cost • It is not useful for tenders / Quotations.

Chapter. 7: Cost Accounting System

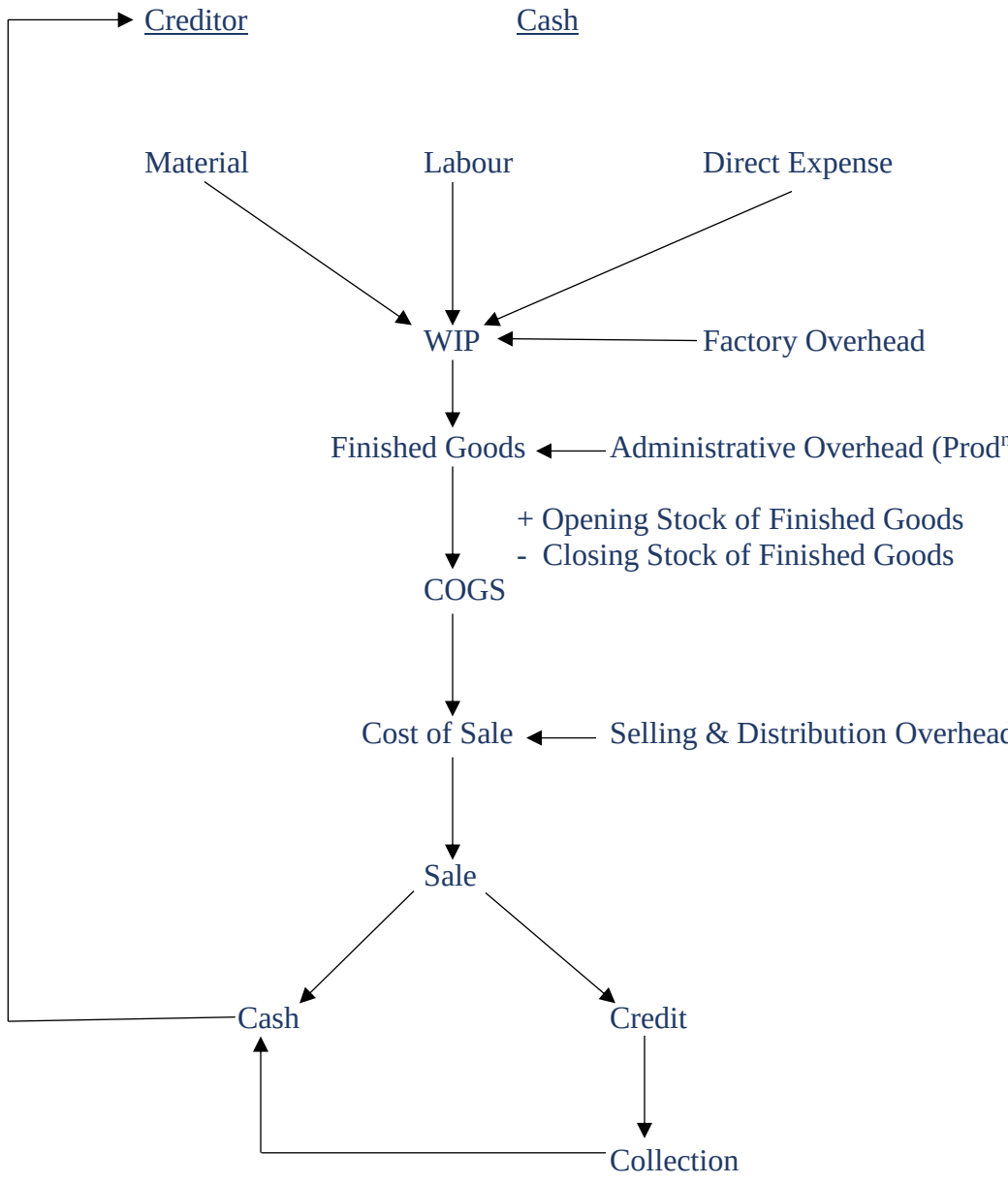
COVERAGE:

1. Cost Accounting System and its type
2. Journal Entry (Non-integrated v/s Integrated)
3. Ledger under Non-integrated System
4. Ledger under Integrated System
5. Reconciliation of Profit.

1. COST ACCOUNTING SYSTEM

S No.	Non-Integral Accounting System	Integral/Integrated
1	Separate account of books for cost accounting & financial accounting	No separate books maintained
2	Two figures of profit, therefore requires reconciliation.	Single figure of profit, therefore, no reconciliation required.
3	Costly/ Time taking	Save time & cost.
4	**It excludes all the given items:** ***Interest expense *Bad Debts ***Other income (Interest, Rent, Dividend) *Tax expense (Record only revenue & cost related to production)	**It includes all the given items:** -------DO------
5	It deals with Notional Expense (Notional Rent, Interest on Capital)	It does not deals with Notional Expense
6	Journal Ledger Control A/c or Cost Ledger Control A/c required to tally double entry: *Credit for all expense *Debit for all revenue. *Net P/L transferred to this A/c.	It does not require such ledger to tally double entry.

Diagram showing flow of transactions



2. JOURNAL ENTRY (NON-INTEGRATED V/S INTEGRATED)

Particulars	Non-Integrated	Integrated
1. Material		
*Purchase	*SLC Dr. To GLC	*SLC Dr. To Cash/Creditor
*Special Job	*WIP Control Dr. To GLC	*WIP Dr. To Cash/Creditor
*Returned to Vendor	*GLC Dr. To SLC	*Creditor Dr. To SLC
*Issue to Prod^{n} (D.M.)	*WIP Control Dr. To SLC	*----------*DO*---------*
*D.M. returned from Prod^{n}	*SLC Dr. To WIP	*----------*DO*---------*
*Indirect material issued to prod^{n} / Issued for Repair.	*POH Control Dr. To SLC	*----------*DO*---------*
***Shortage:**		
(a) Normal	*POH Control Dr. To SLC	*----------*DO*---------*
(b) Abnormal	*Costing P/L Dr. To SLC	*P/L Dr. To SLC
*Job 1 – Job 2	**NO ENTRY** Or *Job 2 Dr. To Job 1 A/c	*----------*DO*---------* Or *----------*DO*---------*
*Credit Payment	**NO ENTRY**	*Creditor Dr. To Cash
2. Labour		
* Wages payment (incurred), (Direct wages/Indirect wages)	*Wages Control A/c Dr. To GLC	*Wages Control A/c Dr. To Cash/Payable
*Direct wages (applied)	*WIP Control Dr. To Wages Control A/c	*----------*DO*---------*
*Indirect wages- allocated (applied)	*FOHC (Prod^{n}) Dr. AOHC (Admin.) Dr. S&D OHC (Selling) Dr. To Wages Control A/c	*----------*DO*---------*
3. Direct Expense	*WIP Control Dr. To GLC	*WIP Control Dr. To Cash/Creditor

4. Overhead		
*Overhead Incurred	*FOHC Dr. AOHC Dr. S&D OHC Dr. To GLC A/c	*FOHC Dr. AOHC Dr. S&D OHC Dr. To Cash/Creditor
*POH (record/charged/ absorbed)	*WIP Dr. To POHC	*----------*DO*---------*
*AOH absorbed (Prod^{n})	*Finished Goods Control Dr. To AOHC	*----------*DO*---------*
*S&D OH/AOH (marketing)	*COS Dr. To S&D OH	*----------*DO*---------*
*Under absorption of Overhead (FOH/AOH/S&D OH)	*Costing P/L Dr. To FOH/AOH/S&D OH	*P/L Dr. To OH (FOH/AOH)
*Over absorption	* FOH/AOH/S&D Dr. To Costing P/L	* FOH/AOH/S&D Dr. To P/L
5. Finished Good Prod^{n}	*Finished Goods Control Dr. To WIP	*----------*DO*---------*
6. Finished Goods to COS	*COS Control Dr. To Finished Goods Control	*----------*DO*---------*
7. COS to P/L	*Costing P/L Dr. To COS Control	*P/L Dr. To COS Control
8. Sales	*GLA Dr. To Costing P/L	*Cash/Debtor Dr. To Sales
9. Net Profit	*Costing P/L Dr. To GLA	* P/L Dr. To Capital
10. Sales Return	*Costing P/L Dr. To GLA *Finished Goods Control Dr. To COS Control	*Sales Return Dr. To Debtor. *----------*DO*---------*

3. LEDGER UNDER NON-INTEGRATED SYSTEM

1. Store Ledger Control A/c

Particulars	₹	Particulars	₹
To B/d	xx	By WIP Control A/c (Issue)	xx
To GLC (Purchase)	xx	By FOH (Ind. Material/Repair/Normal Loss)	xx
To WIP Control A/c (Return to Production)	xx	By Costing P/L (Abnormal Loss)	xx

		By GLC (Return to Vendor)	xx
		By c/d	xx
	xxx		**xxx**

2. Wages Control A/c

Particulars	**₹**	**Particulars**	**₹**
To GLC (Incurred)	xx	By WIPC (Direct Labou)	xx
		By FOHC (Ind. Labour)	xx
	xxx		**xxx**

3. Factory Overhead Control A/c

Particulars	**₹**	**Particulars**	**₹**
To GLC (Incurred)	xx	By WIP Control A/c (Recovered)	xx
To SLC (Indirect Material)	xx	By Costing P/L (Under-Recovered)	Xx
To Wages Control A/c (Indirect Labour)	xx		
To Costing P/L (Over-Recovered)	**xx**		
	xxx		**xxx**

4. WIP Control A/c

Particulars	**₹**	**Particulars**	**₹**
To b/d	xx	By Finished Goods Control A/c	xx
To SLC A/c	xx	By c/d	xx
To Wages Control A/c	xx		
To Direct Expense Control A/c	xx		
To FOH Control A/c	xx		
	xxx		**xxx**

5. Administrative Overhead Control A/c

Particulars	**₹**	**Particulars**	**₹**
To GLC	xx	By Finished Goods Control A/c	xx
To Costing P/L (Over-Recovered)	xx	By Costing P/L (Under-Recovered)	xx
	xxx		**xxx**

6. Finished Goods Control A/c

Particulars	**₹**	**Particulars**	**₹**
To b/d	xx	By Cost of Sale Control A/c	xx
To WIP Control A/c	xx	By c/d	xx
To Administrative OH Control A/c	xx		
To Cost of Sale Control A/c	**xx**		
	xxx		**xxx**

7. Selling & Distribution Overhead Control A/c

Particulars	₹	Particulars	₹
To GLC	xx	By COS Control A/c	xx
To Costing P/L	xx	By Costing P/L	xx
	xxx		**xxx**

8. Cost of Sale Control A/c

Particulars	₹	Particulars	₹
To Finished Goods Control A/c	xx	By Costing P/L	xx
To Selling & Distribution Control A/c	xx	By Finished Goods Control A/c	xx
	xxx		**xxx**

9. Costing P/L

Particulars	₹	Particulars	₹
To COS Control A/c	xx	By GLC (Sales)	xx
To Abnormal Loss	xx	By Overhead (Over-Recovery)	xx
To Overhead (Under-Recovery)	xx		
To GLC (Profit)	xx		
	xxx		**xxx**

10. General Ledger Control A/c

Particulars	₹	Particulars	₹
To Costing P/L (Sales)	xx	By b/d	xx
To SLC (Returned)	xx	By SLC (Purchase)	xx
To Bal. c/d	xx	By Wages Control (Paid)	xx
		By Direct Exp. (Paid)	xx
		By Overhead Control A/c (Incurred)	xx
		By Costing P/L (Profit)	xx
	xxx		**xxx**

Trial Balance

Particulars	Dr.	Cr.
SLC	xx	-
WIP	xx	-
Finished Goods	xx	-
GLC	-	xx
	xxx	**xxx**

4. LEDGER UNDER INTEGRATED SYSTEM:

1. Costing P/L replace with P/L A/c (for Under/Over Absorption, Abnormal Loss, Sales, Cost of Sale).
2. Replace General Ledger Control with respective ledger- Debtor/Creditor/Cash and Bank/Prepaid/Outstanding etc.
3. **Prepare Additional Ledgers:**
    a. Sales
    b. Debtor/Creditor/Cash/Bank
    c. Prepaid/Outstanding
    d. Share Capital /Fixed Assets

5. RECONCILIATION OF PROFIT UNDER COST ACCOUNTING AND FINANCIAL ACCOUNTING:

Following are the reasons due to which Profit is different in Costing Accounting and Financial Accounting.

1. Items included in Financial Accounting only:

a. Expense debited in financial accounts only:

- **i.** Interest Expense
- **ii.** Discount/expenses on share, debentures
- **iii.** Capital loss- loss by fire covered by insurance etc.
- **iv.** Goodwill written off
- **v.** Preliminary expense
- **vi.** PFI, Donation, Subscription
- **vii.** Expenses of company share transfer office.
- **viii.** Additional provision for depreciation, bad debts, etc.

b. Income credited in financial accounts only:

- i. Interest, Rent, Dividend Income.
- ii. Transfer fee
- iii. P/L on sale of Fixed Assets & Investment.

c. Appropriation: Transfer to any Reserve.

2. Items included in Cost A/c only (Notional Expense):

Notional Rent, Notional Salary, Interest on Capital, Depreciation for Assets with Book Value NIL etc.

3. Basis of valuation of stock of Raw Material, WIP & Finished Goods:

Financial – Cost or NRV (whichever is Lower).
Cost A/c- At Cost.

4. Basis of Material Pricing:

(a) FIFO **(b)** Weighted Average **(c)** LIFO

5. Under/Over recovery of Overhead.

Steps:

I. Ascertain profit as per Financial A/c.

Particulars	**₹**	**Particulars**	**₹**
To Opening Stock (RM, WIP, Finished Goods)	xx	By Sales	xx
To Direct Material	xx	By Closing Stock: *RM *WIP *Finished Goods	 xx
To Direct Wages	xx	By Finance Income	xx
To Overhead (All)	xx		
To Finance Expense	xx		
To Net Profit	xx		
	xx		**xx**

II. Profit as per Cost A/c

Particulars	**₹**	**₹**
Direct Material	xx	
Direct Wages	xx	
Direct Expense	xx	
Prime Cost		**xx**
Add: Factory Overhead		xx
Add: Opening WIP		xx
Less: Closing WIP		(x)
Factory Cost		**xx**
Add: Administrative Overhead (Production)		xx
Cost of Production		**xx**
Add: Opening Finished Goods		xx
Less: Closing Finished Goods		(x)
Cost of Goods Sold		**xx**
Add: Selling and Distribution Overhead		xx

Cost of Sale		**xx**
Add: Profit		xx
Sale		**xx**

III. Reconciliation Statement

Profit as per Financial Account	**xx**
Add:	
(i) expenses debited in financial a/c only	xx
(ii) under valuation of opening stock in cost a/c	xx
(iii) over valuation of closing stock in cost a/c	xx
(iv) under recovery of overhead in cost a/c	xx
Less:	
(i) financial income	(x)
(ii) notional expense	(x)
(iii) over value of opening stock in cost a/c	(x)
(iv) under value of closing stock cost a/c	(x)
(v) over recovery of overhead in cost a/c	(x)
Profit as per Cost A/c	**xx**

IV. Memorandum Reconciliation A/c

Particulars	₹	Particulars	₹
To items to be deducted	xx	By Net Profit as per Financial A/c	xx
To Net Profit as per Cost A/c	xx	By items to be added	xx
	xx		**xx**

Chapter. 8: Unit & Batch Costing

COVERAGE:

1. Unit Costing
2. Batch Costing

1. UNIT COSTING:

- It is method of costing which is used to determined cost per unit of a product.
  Cost per unit = Total Cost of Production / No. of unit produced.
- Total Cost of production of any unit is determined as procedure discussed in cost-sheet chapter.
- Calculation of variable cost per unit and Fixed Cost if Semi-Variable cost is given.

Variable Cost/Unit = Change in Total Cost / Change in unit.

Fixed Cost (totality) = Total Cost-Variable Cost (at any level.)

2. BATCH COSTING:

- It is a type of specific order costing where products are produced in a batch. For e.g medicine, radio, pen etc
- **Cost per unit** = Total Cost per batch / No. of unit in a batch.

  Where, **Cost per batch**

Particulars	**(₹)**
Direct Material	xxx
Direct Labour	xxx
Direct Expenses	xxx
Prime cost	**xxx**
+ Overhead	xxx
Work Cost	**xxx**

- **Economic Batch Qty (EBQ)** = $\sqrt{\frac{2AS}{C}}$

  Where, A= Annual demand
  S= Set-up cost per batch
  C= Carrying cost per unit of production.(% of COP)
  e.g. interest, obsolence etc.

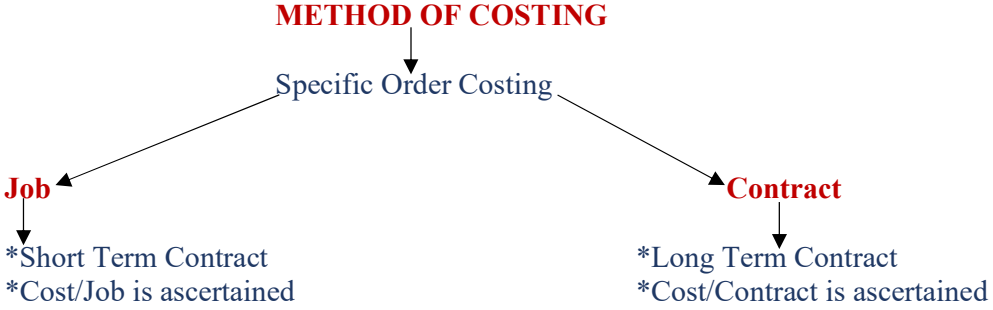
Total Cost

a.	Set-up cost(No. of set-up x cost/set-up)	= xxx
b.	Holding cost(1/2 X EBQ x carrying cost p.u.p.a)	= xxx
	Total Cost	**xxx**

Chapter. 9: Job Costing

Job Costing

1. METHOD OF COSTING



2. DIFFERENCE BETWEEN JOB COSTING AND BATCH COSTING:

S. No.	Job Costing	Batch Costing
1	* It is used where unit is produced as per customer specification.	* It is used where unit is produced in Batch
2	*Cost/Job is ascertained	*Cost/Batch is ascertained
3	*Job-sheet is prepared	*EBQ is calculated
4	*E.g. Printing, Workshop, Advertisement etc	*E.g. Medicine, Radio, Electronic items, etc.

3. JOB COST SHEET

Customer details …… Job No. …….
Date of Com ……. Date of amp…...

Particulars	₹	₹
Direct Material	xx	
Direct Labour	xx	
Direct Expense	xx	
Prime Cost		**xx**
Add: Factory Overhead (DL/Prime Cost/DM/ M H)		xx
Factory Cost		**xx**
Add: Administrative Overhead (% of F.C.)		xx
Cost of Production		**xx**
Add: Selling & Distribution Overhead (% of COP)		xx
Cost of Sale		**xx**
Add: Profit		xx
Selling Price		**xx**

Chapter. 10: Process & Operation Costing

COVERAGE:

1. Basic:
    a. Process Costing
    b. Operation Costing
    c. Inter-Process Profit
2. Process A/c
3. Treatment of Loss/Gain
4. Equivalent Production & Valuation
5. Cost/Unit
6. Valuation of WIP.

EXPLANATION:

1) **a). Process Costing:** it is a method of costing used in industries where material has to pass through two or more processes for being converted in finished goods.

E.g.

Labour, Material & Overhead ---- [PROCESS] ----- Output (Homogeneous)

b). Operation Costing: focus on cost of each operation rather than process.

E.g.

Different Material, Labour & Overhead ---- [Process] ---Different Output (e.g.: Garment).

c). Inter-Process Profit:

Process 1 ---- [Transfer Output at MP/TP] ----- Process 2

Profit = TP/MP – Cost

S. No.	Advantages	Disadvantages
1	It helps to determine each process profitability.	It is complicated to calculate inter process profit.
2	It helps to compare cost of output & Market Price (Make & Buy Decision).	It is not realized profit.

2) PROCESS ACCOUNT

Particulars	Units	₹	Particulars	Units	₹
To Opening Stock	200	xx			
To Material	800	xx	By Normal Loss	50	(2* x 50)

					100
To Labour	-	xx	By Abnormal Loss	70	xx
To Overhead	-	xx	By Transfer/Finished Goods	700	xx
To Abnormal Gain	xx	xx	By Closing Stock *Finished *WIP	 100 80	 xx xx
	1,000			1,000	

***Recovery Rate.**

3) TREATMENT OF LOSS & GAIN

a) Normal Loss: (unavoidable)

- Absorbed by good units i.e. reduced from total units.
- Any sales proceed – credited to process a/c.

Journal Entries:

i. Normal Loss Dr. xx
To Process xx

ii. Bank Dr. xx
To Normal Loss xx

Normal Loss A/c

Particulars	Units	₹	Particulars	Units	₹
To Process 1	xx	xx	By GLA	xx	xx (recovery)
To Process 2	xx	xx			
	xx	**xx**		**xx**	**xx**

b) Abnormal Loss:

Total cost credited to process A/c and Debited to Costing P/L.

Journal Entries:

i. Abnormal Loss Dr. xx
To Process A/c xx

ii. Costing P/L Dr. xx
To Abnormal Loss xx

Abnormal Loss A/c

Particulars	Units	₹	Particulars	Units	₹
To Process 1	xx	xx	By GLA/CLA	xx	xx (recovery)
To Process 2	xx	xx	By Costing P/L	-	xx
	xx	**xx**		**xx**	**xx**

- Generally no scrap value.
- Cost of Abnormal Loss Unit = $\frac{\text{Cost of Output}}{\text{Normal Output}}$ x Abnormal Units

Total Units = 100
Normal Units = 95
Actual Units = 90
Abnormal Units = 5 (Abnormal Loss)

c) Abnormal Gain:

Total Units = 100
Actual Units = 95
Normal Units = 90
Abnormal Units = 5 (Abnormal Gain)

Treatment:

Debit Process A/c and Credit Costing P/L.

Journal Entries:

i. Process A/c Dr. xx
To Abnormal Gain xx

ii. Abnormal Gain Dr. xx
To Costing P/L xx

Abnormal Gain A/c

Particulars	Units	₹	Particulars	Units	₹
To Normal Loss	xx	xx	By Process 1	xx	xx
To Costing P/L	-	xx	By Process 2	xx	xx
	xx	**xx**		**xx**	**xx**

- Cost of Abnormal Gain Unit = Cost of Output / Normal Output x Units of Abnormal Gain

4) EQUIVALENT UNITS: No. of Units x % of work Completed

i. **Normal Loss –** 0% (Always)
ii. **Abnormal Loss –** 100% (Assume)
iii. **Abnormal Gain –** 100% (Assume)
iv. **Finished Goods & Transfer –** 100% (Always)
v. **Closing Stock –** Given.

		Material		Labour & Overhead		Valu-ation
Particulars	**Units**	**%**	**Units**	**%**	**Units**	**₹**
A). Unit Completed FIFO	xx	100	xx	100	xx	
- **Opening**	xx	as per ques.				
- **Current Year**	xx	100	xx	100	xx	
B). Normal Loss	xx	0	xx	0	xx	
C). Abnormal Loss	xx	100%	xx	100%	xx	
D). Closing Stock	xx	60%	xx	50%	xx	
E). Abnormal Gain	(x)	100%	(x)	100%	(x)	

Note:

If two materials are given in question i.e. M1 and M2, assume % completion given for M2 and M1 is 100% completed in all respect and recovery of normal loss shall be deducted from M1.

Whereas,

M1 = Material introduced from previous process.

M2 = Material purchased for current process.

5) COST/UNIT

Particulars	Material	Labour & Overhead
Cost/Unit	Cost – Normal Loss (recovery) / Equivalent Units	Cost / Equivalent Units

6) VALUATION OF WIP:

i. **FIFO:** Opening stock will first complete & then Current Year introduced.

Process Account

Particulars	Unit	Particulars	Unit
To Opening	xx	By Opening	xx
To New	xx	By New	xx
		Completed	**xx**
		By Closing Stock	xx
	xx		**xx**

- Calculate Equivalent production for Material, Labour & Overhead.
- For Cost/Unit – consider only current year cost.

ii. Average:

Process Account

Particulars	Unit	Particulars	Unit
To Opening	xx	By Completed	xx
To New	xx	By Closing Stock	xx
	xx		**xx**

- Cost/Unit = Opening Cost + Current Year's Cost

iii. LIFO: 1st new complete and then opening stock.

Process Account

Particulars	Unit	Particulars	Unit
To Opening	xx	By New	xx
To New	xx	By Opening	xx
		Completed	**xx**
		By Closing Stock	xx
	xx		**xx**

- Calculate Equivalent production.
- For Cost/Unit – consider only current year cost

Note: This method is not in our syllabus and also not used in practical life under process costing.

Chapter. 11: Joint Product & By Product

1. BASIC CONCEPT:

a. Joint Product: Joint products represent "two or more products separated in the course of the same processing operation usually requiring further processing, each product being in such proportion that no single product can be designated as a major product".

b. By- Product: These are defined as "products recovered from material discarded in a main process, or from the production of some major products, where the material value is to be considered at the time of severance from the main product."

c. Co- Product: Co-products may be defined as two or more products which are contemporary but do not emerge necessarily from the same material in the same process. For instance, wheat and gram produced in two separate farms with separate processing of cultivation are the co-products.

d. Joint Product v/s By- Product:

Difference between Joint Product and By- Product are given below:

i. Joint products are of equal importance whereas by-products are of small economic value.

ii. Joint products are produced simultaneously but the by-products are produced incidentally in addition to the main products.

2. JOINT COST APPORTIONMENT:

a. Physical unit / output (at unit produced not sold).

b. Sale Value at split-off (if unit sold at split-off).

c. Net Realisable Value (if units are further processed):

Net Realisable Value = SP - Margin – Further Processing Cost).

d. Sale Value after further processing – at Sale Value only.

e. Contribution Margin Method.

Joint Cost

Variable JC
based on Phy. Unit/avg. unit method

Fixed JC
based on contribution.
Contribution = SP – Variable Joint Cost -Variable further processing cost (if further processed)

f. Constant Gross Margin Percentage:

- Calculation of overall Gross Margin:

SV (A + B + C)	xx
(-) Joint Cost	(x)
(-) Further Processing Cost (A + C)	xx
Overall Margin	xx

% Margin = (overall margin / sales x 100)

Particulars	A	B	C
SV	xx	xx	xx
Less: Constant Margin	(x)	(x)	(x)
	xx	**xx**	**xx**
Less: Further Processing Cost	(x)	-	(x)
Reverse Cost	**xx**	**xx**	**xx**
Add: Further Processing Cost	xx	-	xx
Total Cost	**xx**	**xx**	**xx**

g. Reverse Cost Method:

Sales	xx
Less: % Margin	(x)
Less: Further Processing Cost	xx
Reverse Cost	xx

h. Direct Allocation Method (If it is identifiable).

3. BY-PRODUCT

a) No further processing / Small total value:

i. **Other Income Approach:** SV credited to Costing P/L. All Joint Cost borne by main product.

ii. **Normal Loss Approach:** SV is deducted from total cost i.e. either Cost of Production or Cost of Sale and balance Joint Cost borne by main product.

b) Further Processing:

i. Calculation of Reverse Cost of By-Product.

ii. Balance Joint Cost (Total – Reverse Cost) is share of main product.

e.g.

SV	xx
Less: % Margin	(x)
Less: Further Processing Cost	(x)
Less: Selling Exp.	(x)
Reverse Cost	xx
Total Joint Cost	xx
Share of Main Product	xx

c) Other common approaches:

- Replacement Cost Method
- Standard Cost Method

Note:

After valuation of By-Product, amount credited to Cost of Production of main product.

Chapter. 12: Service Costing

1. **MEANING:** Method of costing used in service industry such as Hotels, Transportation, etc.
2. **COST/ TAKING/ TARIFF PER UNIT:**

a.	Fixed cost/ Standing cost	xx
b.	Variable/ running / operating	xx
c.	Maintenance/ semi variable cost	xx
	Total Cost	**xx**
Add:	Profit/ margin	xx
	Hire / Rent / Taking	**xx**
Add:	Tax	xx
	Tariff	**xx**
÷	**No. of Units**	**xx**
	Tariff / Units	**xx**

EXPLANATION:

1. **Cost (Also include allocated cost)**

Fixed Cost	Variable	Maintenance
Insurance/ License fee	Petrol consumables	P&M
Tax	Diesel	Spare
Admin. Exp.	Other variable	Tyres, etc
Salary to driver, conductor, etc (monthly basis)	---Do--- (operation based) per trip	xxx
Depreciation (due to time)	---Do--- (activity based usage) M. Hrs. based	xxx

Interest:
It is a finance cost. So, not to be included in cost. (ICAI has considered finance cost as a part of cost).

2. **Profit margin & Tax:**
If nothing is specified – calculated on hire charges

3. **Mark-up/ Return:**
Always specified in question. Otherwise, calculate on cost.

4. **Discount:**
It is calculated on rent i.e. before tax

5. **Service unit**

Industry	Unit
Transport	Public- Passenger-km
	General- transportation-km / Quintal –km

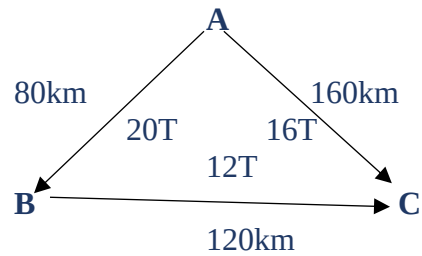
Electricity	Kw
Hospital	Patient day, Room per day, Bed day, per Operation
Canteen	Per item/ Per meal, etc.
Hotel	Room day/ Guest Day
Cinema	Per Ticket
Bank / FI	Per Transaction, Service, per application
Education	Per Course, Student, Batch, Lecture
Insurance	Per Policy, Claim, TPA etc.
IT/ ITES	Cost per project, Module, etc.

Unit

1. **Individual unit:-** per trip, passenger, guest, day, etc.
2. **Composite:** e.g. passenger- km
   No. of Passenger x Total km

Type (Transportation)

1. **Absolute/weighted average**



=(80 x 20 + 120 x 12 + 160 x 16)
=5600

2. **Commercial/ Simple Average**
   Average ton x sum of kilometer
   = (20+16+12)/3 x (80+120+160)
   =5760

3. **Equivalent:** (convert one unit in terms of other)

e.g.

Hotel	Occupancy	Rent	Month
Normal	80%	-	6
Off- Season	50%	50% of seasonal	6

Room Day:
Normal = (50 x 6months x 30 x 80%) = 7200
Off Season = (50 x 60 x 30 50%) = 4500

Equivant:

1. 7200 + (4500 x 50%) = 9450 (Rent for Normal)
   Or
2. (7200 x 2 + 4500) = 18900 (Rent for Off-season)

Chapter. 13: Standard Costing

1. Techniques of costing which ensures cost control.

Process:

	Past Data	xx
+/-	Future Factor	xx
	Standard Cost	xx
	Actual Cost	xx
	Variance*	**xx**

Variance:

a) Adverse – Remedial action should be taken.

b) Favorable – Bonus, Incentives, etc. should be provided.

2. COVERAGE:

A. Cost Variance.

Material	Material Price **Material Usage:** a. Mix b. Yield.
Labour	Rate Idle Time **Efficiency Variance:** a. Mix/Gang b. Yield/Revised or Sub Efficiency
Overhead	**Variable Overhead:** a. Expenditure b. Efficiency **Fixed Overhead:** a. Expenditure **b. Volume:** i. Efficiency ii. **Capacity:** ☞ Calendar ☞ Revised Capacity

i. **Material Cost Variance**

MPV (SP-AP) x AQ

Purchase Qty. Consumed Qty

*Opening Stock (SP-AP)…. Last Year

*Closing Stock (SP-AP)…..Current Year.

MUV (SQ for AO - AQ) x SP

Note:

1. If AP of last year not given – current year SP should be taken
2. SP of last year is not given – current year SP should be taken

Yield
(SQ – RAQ) x SR

Mix
(RAQ – AQ) x SR

E.g.

	Budgeted			**RAQ**	**Actual**		
	Q	**P**	**₹**	**AQ in Std. Ratio**	**Q**	**P**	**₹**
A	1	5	5	0.5	0.75	5	3.75
B	1	10	10	0.5	0.25	10	2.25
	2		**15**	**1**	**1**		

Tabular (All Qty. are for Actual Output)

	SQ x SP	**RAQ x SP**	**AQ x SP**	**AQ x AP**
A	xx	xx	xx	xx
B	xx	xx	xx	xx

Yield | Mix | Price

Usage

MCV

ii. **Labour Cost Variance**

1. **Labour Rate:** (SR-AR) x APH

2. **Idle Variance:** (AWH – APH) x SR
3. **Labour Efficiency:** (SH - AWH) x SR
   a. **Yield/Revised Efficiency/Sub-Efficiency**
      (SH – Revised AWH) x SR
      Or,
      (Total Std. Hours – Total Actual Hrs.) x Wgt. Avg. Labour Rate.
   b. **Mix-Gang**
      (Revised AWH – AWH) x SR

	Budgeted (10 Units)			Revised AWH	Actual (10 Units)		
	Hrs.	**R**	**₹**		**Hrs.**	**R**	**₹**
Skilled	5	2	10	4	6	2	12
Unskilled	5	3	15	4	2	3	6
	10		**25**	**8**	**8**		**18**

Yield Mix

Skilled	= (5-4) x 2 = 2	(4-6) x 2 = (4)
Unskilled	= (5-4) x 3 = 3	(4-2) x 3 = 6
	5	2

Tabular:

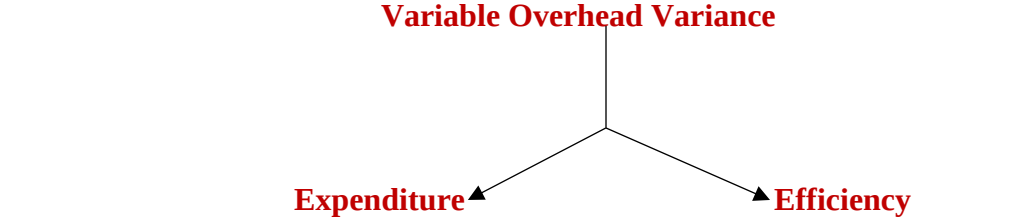
SH x SR — Re. AWH x SR — AWH x SR — APH x SR — APH x AR

Yield: SH x SR – Re. AWH x SR
Mix: Re. AWH x SR – AWH x SR
Idle: AWH x SR – APH x SR
Price: APH x SR – APH x AR
Efficiency: SH x SR – AWH x SR
LCV: SH x SR – APH x AR

Loss in Hours:

1. **Normal Reason (unavoidable):** Labour rate already adjusted considering it.
2. **Abnormal Reason:**
   a. **Hours not utilized (Idle Variance)**
      - ✓ Machine Breakdown
      - ✓ Non-availability of Raw Material
      - ✓ Labour Strike, Power Failure, etc.
   b. **Hours utilized but not efficiently (Labour efficiency variance)**

iii. **Variable Overhead Variance**



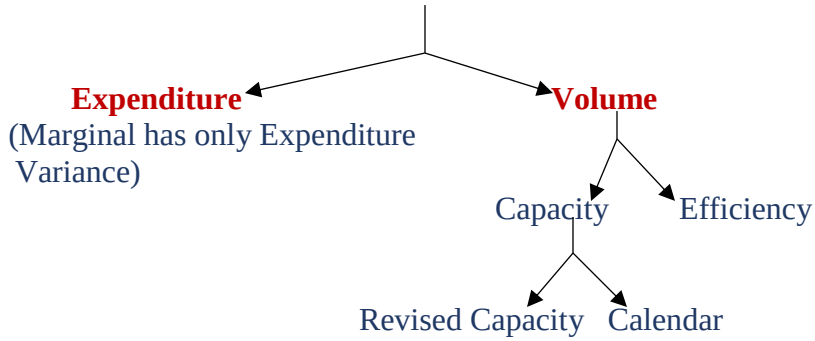
Qty based (material) - (SP-AP) x AQ (SQ-AQ) x SR
Hours based (Lab & Exp.) - (SR-AR) x AWH (SH-AWH) x SR

*Indirect Material – Qty. based
*Indirect Labour – Hours based
*Indirect Expense – Hours based

Tabular:

SOH	**AWH x SR**	**AOH**
(SH x SR)		(AWH x AR)
Efficiency		Expenditure

iv. **Fixed Overhead Variance**



(a) **Hours Based:**

Budgeted Hours **Recovery Rate** **Budgeted Overhead**

Capacity

AWH

Efficiency

Std. Hours for AO

Expenditure

Volume **Actual Overhead**

FO cost Variance

Recovered

(b) **Output based Budgeted Output:**

Budgeted Output **Recovery Rate** **Budgeted Overhead**

Expenditure

Volume **Actual Overhead**

FO cost

Actual Output **Recovered**

Capacity Variance

Calendar **Revised Capacity**

= (Actual days – Budgeted days) x RR/day Capacity - Calendar

Ratio:

1. **Efficiency** = SH for AO/ AWH
2. **Capacity** = AWH/Budgeted Hrs.
3. **Volume/Activity** = SH for AO/Budgeted Hrs.

Chapter. 14: Marginal Costing

Types of Costing:

i. Marginal Costing
ii. Absorption Costing

S No.	Marginal Costing (Variable Costing, Differential Costing/Decision-making)	Absorption Costing
1	Statement of Profit Sale xx Less: Variable Cost xx (Product Cost) **Contribution xx** Less: FC/Period Cost xx Profit xx	Statement of Profit Sale xx Less: Total Cost (VC + FC) (Product Cost) xx **Profit xx**
2	Fixed Cost is period cost.	Fixed Cost is part of cost of product.
3	It is relevant for decision making.	It is not relevant for decision making.
4	Contribution from each product is determined.	Profit from each product is determined.
5	For example: Price to be offered for new offer.	For example: Calculation of total cost, selling price of regular product.

Various Concepts:

1) a) P/V ratio & Composite P/V Ratio
   b) BEP & MOS
   c) Cash BEP & Composite BEP
   d) Reverse Calculation (Desired Sales)
   e) Variable Cost and Fixed Cost
2) Cost-indifference
3) Shut-down Points
4) Profit calculation under Marginal & Absorption Costing & Reconciliation

1. a). P/V Ratio = Contribution / Sales x 100

Or,

$$= \frac{\text{Contribution per unit}}{\text{Selling Price per unit}} \times 100$$

Or,

$$= \frac{\text{Change in Profit}}{\text{Change in Sales}}$$

Therefore, represent profitability of product under Marginal Concept

b). BEP & MOS

SP = 10, VC = 6, Contribution = 4, Fixed Cost = 1,00,000.

Sales = 12,00,000

MOS = 9,50,000 (Contribution= Profit)

BEP = 2,50,000 (Contribution = FC i.e. No Profit/No Loss).

***BEP** = $\frac{\text{Fixed Cost}}{\text{Contribution /unit}}$ Or, $\frac{\text{Fixed Cost}}{\text{P/V Ratio}}$ (BEP units x SP)

***MOS** = Total sales – BEP sales (Either in units or ₹).

Or,

$= \frac{\text{Profit}}{\text{Contribution / unit}}$ or $\frac{\text{Profit}}{\text{P/V Ratio}}$

c). Required Sale = $\frac{\text{FC + Desired Profit}}{\text{Contribution /unit or P/V Ratio}}$

d). Cash BEP = $\frac{\text{Cash FC}}{\text{Contribution/unit or P/V Ratio}}$

(Non-cash Fixed Cost i.e. Depreciation shall be excluded)

e). Composite BEP = $\frac{\text{Group FC (A+B)}}{\text{Group contribution/unit or Group P/V Ratio}}$

Group contribution/ unit = $\frac{\text{Contribution (A + B)}}{\text{Units (A + B)}}$

$$= \frac{C1 \times W1 + C2 \times W2}{W1 + W2}$$

Note:

- C1 & C2 is contribution per unit of A & B.
- W1 & W2 is Weighted Avg. of Sales units.

(Divide composite BEP units based on weight of sales units).

Group P/V Ratio = $\frac{PV1.W1 + PV2.W2}{W1 + W2}$

Note:

- PV1 & PV2 = P/V ratio of A & B.
- W1 & W2 = Sales Value weight.

(Divide composite BEP (₹) based on weight of sales units).

f). If total cost given at two different level

Variable Cost per unit = $\frac{\text{Change in Total Cost}}{\text{Change in Quantity}}$

Fixed Cost = Total Cost – Variable Cost

2. Cost-indifference point:

(Total cost is same is two alternatives) – More than 2 alternatives will study in CA Final.

$= \frac{\text{Difference in FC}}{\text{Difference in VC/unit}}$

Example:

		Alt 1	Alt 2
Variable Cost (per unit)	=	4	2
Fixed Cost	=	1,00,000	2,00,000

Cost-indifference = $\frac{2,00,000-1,00,000}{2}$ = 50,000 units (i.e. TC of 50,000 in both Alt are same).

3. Shut-down point:

It is level below which production should be shut-down.

$= \frac{\text{Avoidable Fixed Cost – Extra Fixed Cost}}{\text{Contribution/unit or PV Ratio}}$

Avoidable Fixed Cost = Reduction in Fixed Cost due to shut down.
Contribution/unit = SP – VC
Extra Fixed Cost = Extra Wages + Repair of Machine etc.

4. Profit Calculation:

a. Marginal

Particulars	₹	₹
Revenue		xx
Less: Product Cost (Variable Cost) - DM - DL - Variable FOH (actual = Bud. (+)(-) under/over)	 xx xx xx	
Gross FC	**xx**	
Add: Opening WIP – at VC	xx	
Less: Closing WIP – at VC	xx	
FC	**xx**	
Add: Administrative Overhead (production)- variable	xx (actual at unit produce)	
Variable COP	**xx**	
Add: Opening Finished –at VC	xx	
Less: Closing Finished – at VC	(x)	
Variable COGS	**xx**	
Add: Variable Selling & Distribution	xx (at unit sold)	xx
Contribution		**xx**
Less: Fixed Cost (FOH + AOH + S&D)-actual		xx
Profit		**xx**

b. Absorption Costing: Charge all overhead (Variable + Fixed)

Particulars	₹
Revenue	xx
Less : COS (Total Cost)	(x)
Profit	**xx**
Add: over recovery of FOH (fixed)	xx
Less: under recovery	(x)
Actual Profit	**xx**

Note:

1. VOH (FOH + AOH + S&D) = Actual
2. **Fixed Overhead:**
   a. FOH – based on Recovery Rate
   b. AOH & S&D Overhead – Actual.

c. Reconciliation:

Particulars	₹
Profit under Marginal	**xx**
Add: Under valuation of Closing Stock (under Marginal Costing) Over valuation of Opening Stock (under Marginal Costing)	 xx
Less: Over valuation of Closing Stock (under Marginal Costing) Under valuation of Opening Stock (under Marginal Costing)	 xx
Actual Profit under Absorption	**xx**

Chapter 15 – Budget and Budgetary Control

COVERAGE:

1. Basic Concepts
2. Budgeting
3. Budgeted Ratio
4. Types of Budget
5. Budgetary Control
6. Zero Based Budgeting
7. Budget vs. Control period
8. Programme and Performance Budgeting

1. BASICS CONCEPTS

a. Budget: It is financial and quantitative statement prepared prior to defined period of time to attain given objective.

b. Forecast:

- *Analysis and Interpretation of future condition.*
- It involves projecting future course of action.

c. Budget vs. Forecast:

S .No.	Forecast	Budget
l.	Estimate based on probable event.	Estimate based on planned event.
2.	It is preliminary step	It begins when forecast end.
3.	Wider scope	Limited scope
4.	Used for performance evaluation	Used for performance evaluation by comparing with actual

d. Essential features of Budget:

- Expressed in monetary or/and physical units.
- Prepared prior to budget period.
- Prepared definite period.
- Objective of budget shall lay down prior to budget period.

2. BUDGETING: It is process of designing, implementing and operating budget.

3. BUDGETED RATIO:

a. Efficiency Ratio = $\frac{\text{Std Hours for Actual output}}{\text{Actual Hours}} \times 100$

b. Capacity Ratio or Actual Usage of Budgeted Capacity

$= \frac{\text{Actual Hours}}{\text{Budgeted Hours}} \times 100$

c. Volume/Activity Ratio = $\frac{\text{Standard Hours}}{\text{Budgeted Hours}} \times 100$

d. Calendar Ratio = $\frac{\text{Actual Working Days}}{\text{Budgeted Working Days}} \times 100$

e. Standard Capacity Usage = $\frac{\text{Budgeted Hours}}{\text{Maximum Hours}} \times 100$

f. Actual Capacity Usage = $\frac{\text{Actual Hours}}{\text{Maximum Hours}} \times 100$

4. TYPES OF BUDGET:

Scope	Efficiency	Condition	Period
Master Budget (Summary of various budget)	Fixed (At Single efficiency level)	Basic (On the basis of Past Data)	Long Term > 1 year
Functional (Budget of various activities of organization)	Flexible (At Different efficiency level)	Current (Based on Current Condition)	Short Term upto 1 year

Classification of Functional Budget:

a) Sales Budget
b) Production Budget
c) Raw Material Consumption Budget
d) Raw Material Purchase Budget
e) Plant Utilization Budget
f) Labour Hour & Labour Cost Budget
g) Overhead Budget (Manufacturing Overhead & Selling and Distribution Overhead).
h) Financial Budget
- Cash Budget
  Three Methods:
  i. Receipt & Distribution
  ii. P/L Approach
  iii. Balance Sheet Approach.
- Capital Expenditure Budget

Practical:

a. Sales Budget:

= Qty sold x Sale price

b. Production Budget:

Particulars	Unit
Sales (Qty)	xxx
+ Closing stock	xxx
(-) Opening stock	xxx
Production	**xxx**

c. Production cost budget:

= unit produced x cost/ unit

d. Raw material consumption budget:

= Qty produced x Raw material per unit of finished goods

e. Raw material purchase budget:

Particulars	Unit
Consumption (Qty)	xxx
+ Closing stock	xxx
(-) Opening stock	xxx
Purchased unit	**xxx**

f. Labour Budget:

Labour hours budget = Unit produced x labour hour/unit

Labour cost budget = Labour hours x rate/hours

g. Flexible Budget:

Capacity	50%	70%	90%
Sales	xxx	xxx	xxx
Less:			
Direct material	xxx	xxx	xxx
Direct wages	xxx	xxx	xxx
Direct Expenses	xxx	xxx	xxx
Variable overhead	xxx	xxx	xxx
Fixed Overhead	xxx	xxx	xxx
Semi- variable overhead	xxx	xxx	xxx
Profit	**xxx**	**xxx**	**xxx**

h. Master Budget:

i. Budgeted Balance Sheet.

ii. Budgeted Income Statement.

Budgeted Balance Sheet.

Particulars		₹
Share capital	xxx	
Retained Earning	xxx	**xxx**
Represented by:		
Fixed Assets		
Tangible	xxx	
Intangible	xxx	xxx
Current Assets	xxx	
Less: Current Liability	xxx	xxx
		xxx

Budgeted Income Statement.

Particulars		₹
Sales:		
Product 1	xxx	
Product 2	xxx	**xxx**
Cost of goods sold:		
Direct material	xxx	
Direct labour	xxx	
Direct expenses	xxx	
Prime cost	xxx	
+ Factory overhead	xxx	
Factory cost	xxx	
+Administrative overhead	xxx	
Cost of production	xxx	xxx
Gross profit		**xxx**
Less: Selling & Dist. overhead		xxx
Less: Administrative overhead(general)		xxx
PBIT		**xxx**
Less: Interest		xxx
PBT		**xxx**
Less: Provision for tax		xxx
Profit after tax		**xxx**

5. BUDGETARY CONTROL:

a. It is end result.

b. Process:

i. Estimate Budget
ii. Compare with actual result
iii. Corrective action/ remedial measure should be taken.

c. Objective:

i. Eliminate wastage
ii. Helps to predict future
iii. Co-ordinate action of various department.
iv. Corrects deviation from standard.

d. Limitation:

i. Budget preparation is difficult task.
ii. Future prediction is uncertain.
iii. It is based on past data which is not relevant for changing circumstances.
iv. Gaining co-ordination among various department is difficult task.

e. Elements:

i. Budget center
ii. Budget Manual
iii. Organization chart

iv. Budget Committee
v. Budget Controller
vi. Budget Key Factor
vii. Budget Report

6. ZERO BASED BUDGETING:

It is budget prepared and justified from zero and last year is not taken as based. All activities are re-evaluated each times budget is prepared.

a. Traditional Budgeting vs. ZBB

S.No.	Traditional	ZBB
l.	It is accounting Oriented.	It is decision oriented.
2.	It is based on last year budget	It is not based on last year budget
3.	It is based on incremental approach.	It is not based on incremental approach.
4.	All activities are not re-evaluated each times budget is prepared.	All activities are re-evaluated each times budget is prepared.

b. Dis-advantages of Zero Based Budgeting.

i. It requires training to manager.
ii. It is costly and time consuming.
iii. It emphasis on short term rather than long term objective.
iv. It requires more paper work and personnel.

7. BUDGET PERIOD VS. CONTROL PERIOD.

S.No.	Budget period	Control period
l.	It is period for which budget is prepared.	It is period for which interim report is prepared for corrective action.
2.	It is on quarterly, monthly, annual basis.	Period is specified by management.
3.	It may be short-term or long-term.	It is generally, short-term.

8. PROGRAMME AND PERFORMANCE BUDGET:

a. Programme budget:

It is prepared for specific activity or programme. It includes only revenue and expenses of specific programme.

b. Performance budget:

- ✓ It focus on specific performance objective.
- ✓ It relates to greater management efficiency.
- ✓ It measures progress towards short-term and long-term objectives.