

(i) Total Operating Cost	(a) + (b)	xxx
(ii) No. of Patient days		xxx
Cost per patient day	(i)/(ii)	xxx

Chapter 13 : Process Costing and Operation Costing

Value of Abnormal Loss and Abnormal Gain

$$\text{Value of Abnormal Loss} = \frac{\text{Total cost} - \text{Scrap value of normal loss}}{\text{Input units} - \text{Normal loss in units}} \times \text{Units of abnormal loss}$$

$$\text{Value of Abnormal Gain} = \frac{\text{Normal cost of normal output}}{\text{Unit of normal output}} \times \text{Units of abnormal gain}$$

Procedures in Process Cost Accounting

Process A A/c

Particulars	Units	₹	Particulars	Units	₹
To Units introduced	xxx	xxx	By Normal loss	xxx	xxx
To Direct materials		xxx	By Abnormal loss	xxx	xxx
To Direct labour		xxx	By Process B A/c	xxx	xxx
To Manufacturing expenses		xxx	(transfer to Process B)		
To Other production overheads		xxx			
	xxx	xxx		xxx	xxx

$$\text{Transfer price p.u. and abnormal wastage} = \frac{\text{Total cost} - \text{Scrap value of Normal loss (if any)}}{\text{Input} - \text{Units of Normal loss (if any)}} = ₹ \text{ xx}$$

Note : The units transferred to Process B and the units of Abnormal wastage, both are valued at same rate per unit. The amount realized from the sale of normal wastage is credited to Process A A/c.

Process B A/c

Particulars	Units	₹	Particulars	Units	₹
To Process A A/c (transfer from A)	xxx	xxx	By Normal loss	xxx	xxx
To Materials		xxx	By Abnormal loss	xxx	xxx
To Direct labour		xxx	By Process C A/c	xxx	xxx
To Manufacturing expenses		xxx	(transfer to Process C)		
To Other production overheads		xxx			
	xxx	xxx		xxx	xxx

$$\text{Transfer price p.u. and abnormal wastage} = \frac{\text{Total cost} - \text{Scrap value of Normal loss (if any)}}{\text{Input} - \text{Units of Normal loss (if any)}} = ₹ \text{ xx}$$

Note : The units transferred to Process C and the units of Abnormal wastage, both are valued at same rate per unit. The amount realized from the sale of normal wastage is credited to Process B A/c.

Process C A/c

Particulars	Units	₹	Particulars	Units	₹
To Process B A/c (transfer from B)	xxx	xxx	By Normal loss	xxx	xxx
To Materials		xxx	By Finished Goods Stock A/c	xxx	xxx
To Direct labour		xxx	(transfer)		
To Manufacturing expenses		xxx			
To Other production overheads		xxx			
To Abnormal gain	xxx	xxx			
	xxx	xxx		xxx	xxx

Transfer price p.u. and abnormal gain = $\frac{\text{Total cost} - \text{Scrap value of Normal loss (if any)}}{\text{Input} - \text{Units of Normal loss (if any)}} = ₹ \text{xx}$

Note : The units transferred to Finished Goods Stock A/c and the units of Abnormal wastage, both are valued at same rate per unit. The amount realized from the sale of normal wastage is credited to Process C A/c.

Normal Loss A/c

Particulars	Units	₹	Particulars	Units	₹
To Process A A/c	xxx	xxx	By Bank A/c (sale proceeds)	xxx	xxx
To Process B A/c	xxx	xxx	By Abnormal gain A/c (bal. figure)	xxx	xxx
To Process C A/c	xxx	xxx			
	xxx	xxx		xxx	xxx

Abnormal Loss A/c

Particulars	Units	₹	Particulars	Units	₹
To Process A A/c	xxx	xxx	By Bank A/c (sale proceeds)	xxx	xxx
To Process B A/c	xxx	xxx	By Costing Profit and Loss A/c		xxx
	xxx	xxx		xxx	xxx

Abnormal Gain A/c

Particulars	Units	₹	Particulars	Units	₹
To Normal loss A/c	xxx	xxx	By Process C A/c	xxx	xxx
To Costing Profit and Loss A/c		xxx			
	xxx	xxx		xxx	xxx

Finished Goods Stock A/c

Particulars	Units	₹	Particulars	Units	₹
To Process C A/c (transfer of finished goods)	xxx	xxx	By Cost of sales A/c	xxx	xxx
			By Balance c/d	xxx	xxx
	xxx	xxx		xxx	xxx

Income Statement

Particulars	₹	Particulars	₹
To Cost of sales	xxx	By Sales	xxx
To Abnormal loss	xxx	By Closing stock of finished goods	xxx
To Net profit	xxx	By Abnormal gain	xxx
	xxx		xxx

Basic Principles in Process Cost Accounting

- The output of the previous process will become raw material for the subsequent process.
- It is common that for the inputs taken from the previous process, some more materials will be add during the current process.
- The finished goods comes out of the last process will be transferred to the finished stock wherefrom sales are made. The production is undertaken for stock and not to meet any specific order of the customer.
- For each process, detailed record are kept as regards input, output, transfers to subsequent process, transfer to finished stock, normal loss, abnormal loss/gain, other materials/chemicals consumed, expenses incurred, sale of scrap or waste, employee time spent etc.
- The cost of materials, wages and other direct expenses incurred at each process is to be accounted to that process as direct costs.
- Generally in process industries, the labour cost will be a small component of the total cost of each process.

- (g) The permanent and skilled employees will look after each process. Therefore, identification of labour cost of each process will not be complicated.
- (h) In some cases, there will be common employees who look after more than one process. In such cases, the employee cost of those workers have to be carefully analyzed and apportioned to different processes based on the time spent by such workers.
- (i) The component of overhead to the total cost of the process will be normally higher in process industries due to mechanized processing with automatic plant and machinery.
- (j) Some expenses which are commonly incurred for all processes like salary of production manager, factory rent, upkeep and maintenance of plant and machinery, insurance, etc. should be apportioned to the different processes on some equitable basis.
- (k) The cost per unit of each process for a particular accounting period is arrived at by dividing the cost incurred at that process during that period with the number of units produced after taking into consideration the losses and amount realized from sale of scrap.

Equivalent Units

Equivalent units of work-in-progress is computed as follows:

Actual number of units in process of manufacture × Percentage of work completed.

Suppose, the closing stock is 200 units, 50% complete in respect of material, labour and overhead. This is equivalent to 100 completed units. It should be noted that equivalent units are not physical units but they are abstract units, utilized for facilitating calculation of product costs and of performance.

Example

Input (1)	Output (2)	Units (3)	Degree of completion (4)	Equivalent production (3) × (4)
1,500	Completely processed	1,000	100%	1,000
-	Semi-finished	500	50%	250
1,500	Total	1,500		1,250

Steps in Valuation of Equivalent Units

The steps involved in valuation of equivalent units are as follows:

- Step 1 : Trace the physical flow of units so that units input to the production process are reconciled with units output or in process at the end of the period.
- Step 2 : Convert the physical units determined in step (1) above into equivalent units of production for each factor of production i.e., materials, labour, overheads etc.
- Step 3 : Calculate the total costs for each factor for the period.
- Step 4 : Divide the total costs by equivalent units to establish cost per equivalent unit.
- Step 5 : Multiply equivalent units by cost per equivalent unit to ascertain the cost of finished production and work-in-progress.
- Step 6 : Reconcile these values with the total costs for the period as calculated in step (3) above.

Inter-process Profits

The unrealized profit on stock held can be obtained by the following formula :

$$\text{Unrealized profit on stock} = \frac{\text{Profit}}{\text{Total}} \times \text{Closing stock}$$

The cost of closing stock is calculated by using the following formula :

$$\text{Cost of Stock} = \frac{\text{Cost}}{\text{Total}} \times \text{Closing stock}$$

Chapter 14 : Joint Products and By-products

Examples of Joint Products

Industry	Joint Products
Oil refining	Petrol, Diesel, Liquid Petroleum Gas, Kerosene, Paraffin, Lubricants
Meat processing	Meat, Hides, Bones, Grease
Mining	Several metals from the same Ore e.g. Iron, Copper, Silver etc.
Coal gas	Coke, Tar, Benzol and Sulphate of Ammonia
Sheep rearing	Meat, Wool, Hides

Examples of By-Products

Industry	By-products
Sugar manufacture	Molasses used for industrial alcohol
Iron and Steel manufacture	Furnace slag used in construction activities
Meat trade	Bones, Grease
Timber	Saw dust, small off-cuts, barks
Coke industry	Linoleum
Thermal Power Plant	Ash

Chapter 15 : Breakeven and CVP Analysis

Formulas in Breakeven Analysis and Marginal Costing Chapters

$$\begin{aligned}
 \text{Sales} &= \text{Variable Cost} + \text{Fixed Cost} + \text{Profit} \\
 \text{Sales} - \text{Variable Cost} &= \text{Fixed Cost} + \text{Profit} \\
 \text{Sales} - \text{Variable Cost} &= \text{Contribution} \\
 \text{Contribution} &= \text{Fixed Cost} + \text{Profit} \\
 \text{Contribution} - \text{Fixed Cost} &= \text{Profit} \\
 \text{Breakeven Point (Units)} &= \frac{\text{Fixed Cost}}{\text{Contribution Per Unit}} \\
 \text{Breakeven Sales (₹)} &= \frac{\text{Fixed Cost} \times \text{Selling Price Per Unit}}{\text{Contribution Per Unit}} \\
 \text{Breakeven Point (₹)} &= \frac{\text{Fixed Cost}}{\text{P/V Ratio}} \\
 \text{Breakeven Point (₹)} &= \text{Breakeven units} \times \text{Selling Price Per Unit} \\
 \text{Cash Breakeven Point (Units)} &= \frac{\text{Additional Fixed Cost}}{\text{Additional Contribution Per Unit}} \\
 \text{Cash Breakeven Point (₹)} &= \frac{\text{Cash Fixed Cost}}{\text{P/V Ratio}} \\
 \text{Cash Breakeven Point (Units)} &= \frac{\text{Cash Fixed Cost}}{\text{Contribution Per Unit}} \\
 \text{Breakeven Point of Sales Mix (₹)} &= \frac{\text{Fixed Cost}}{\text{Composite P/V Ratio}} \\
 \text{Composite P/V Ratio} &= \frac{\text{Total Contribution}}{\text{Total Sales}}
 \end{aligned}$$

$$\begin{aligned} \text{Composite P/V Ratio} &= \Sigma (\text{Sales Mix} \times \text{P/V Ratio}) \\ \text{P/V Ratio} &= \frac{\text{Contribution}}{\text{Sales}} \\ \text{P/V Ratio} &= \frac{\text{Contribution Per Unit}}{\text{Selling Price Per Unit}} \\ \text{P/V Ratio} &= \frac{\text{Change in Contribution}}{\text{Change in Sales}} \\ \text{P/V Ratio} &= \frac{\text{Change in Profit}}{\text{Change in Sales}} \\ \text{Contribution} &= \text{Sales} \times \text{P/V Ratio} \\ \text{Variable Cost} &= \text{Sales} (1 - \text{P/V Ratio}) \\ \text{Profit} &= (\text{Sales} \times \text{P/V Ratio}) - \text{Fixed cost} \\ \text{Desired Sales (₹)} &= \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{P/V Ratio}} \\ \text{Additional Sales Required} &= \frac{\text{Increase in Expenditure}}{\text{P/V Ratio}} \\ \text{Profit} &= (\text{Sales} \times \text{P/V Ratio}) - \text{Fixed Cost} \\ \text{Profit} &= \text{Margin of Safety} \times \text{P/V Ratio} \\ \text{Profit} &= \text{P/V Ratio} (\text{Sales} - \text{Breakeven Sales}) \\ \text{Profit} &= \text{P/V Ratio} \times \text{Margin of Safety} \\ \text{At Breakeven point:} \\ \text{Contribution} &= \text{Fixed cost} \\ \text{Contribution} - \text{Fixed cost} &= 0 \\ \text{Margin of Safety} &= \text{Actual Sales} - \text{Breakeven Sales} \\ \text{Margin of Safety} &= \frac{\text{Contribution}}{\text{P/V Ratio}} - \frac{\text{Fixed Cost}}{\text{P/V Ratio}} \\ \text{Margin of Safety} &= \frac{\text{Profit}}{\text{P/V Ratio}} \\ \text{Margin of Safety} &= \frac{\text{Profit} \times \text{Selling Price Per Unit}}{\text{Selling Price Per Unit} - \text{Variable Cost Per Unit}} \\ \text{MOS as \% of Total Sales} &= \frac{\text{Sales at Margin of Safety}}{\text{Total Sales}} \times 100 \\ \text{Profitability (₹)} &= \frac{\text{Contribution}}{\text{Key Factor}} \\ \text{Indifference Point} &= \frac{\text{Difference In Fixed Cost}}{\text{Difference In P/V Ratio}} \\ \text{Cash BEP (units)} &= \frac{\text{Cash Fixed Cost}}{\text{Contribution Per Unit}} \\ \text{Indifference point} &= \frac{\text{Difference in Fixed Cost}}{\text{Difference in P/V Ratio}} \end{aligned}$$

Chapter 16 : Marginal Costing

Formulas Used in Marginal Costing

Sales	=	Variable Cost + Fixed Cost + Profit
Sales - Variable Cost	=	Contribution
Sales - Variable Cost	=	Fixed Cost + Profit
Contribution	=	Fixed Cost + Profit
Contribution - Fixed Cost	=	Profit

Absorption Costing and Marginal Costing : Impact on Profit

In absorption costing, stock is valued at total cost while in marginal costing stock valuation is done at variable cost only. This means that in absorption costing, stock valuation is higher than in marginal costing.

The following generalizations to be made on the impact on profit :

- When output is equal to sales i.e. with no opening and closing stock the profit under absorption costing and marginal costing is equal.
- When output is less than sales i.e. closing stock is less than opening stock, the profit under marginal costing is greater than the profit under absorption costing.
- When output is greater than sales i.e. closing stock is more than the opening stock, the profit under the marginal costing is less than the profit under absorption costing.

The differences between the profits revealed by absorption costing and marginal costing can be computed with the help of the following formula :

$$= \frac{\text{Fixed Factory Overheads}}{\text{Total Machine/Labour Hours}} \times (\text{Volume Produced} - \text{Volume Sold})$$

$$= \text{Factory Overheads Per Unit} \times \text{Change in Inventory Units}$$

Hypothetical Statements of Cost and Profit

On Marginal Costing Basis

Statement of Cost and Profit for the year ending 31st March,			(₹)
Sales	(3,10,000 units × ₹ 80)	(a)	2,48,00,000
Variable cost:			
Variable production cost	(3,20,000 units × ₹ 40)		1,28,00,000
Add: Opening stock	(40,000 units × ₹ 40)		16,00,000
			1,44,00,000
Less: Closing stock	(50,000 units × ₹ 40)		20,00,000
Variable cost of production	(3,10,000 units)		1,24,00,000
Add: Variable selling expenses	(3,10,000 units × ₹ 12)		37,20,000
Total variable cost		(b)	1,61,20,000
Contribution		(a) - (b)	86,80,000
Less: Fixed cost			
Fixed production cost	24,00,000		
Fixed selling expenses	16,00,000		40,00,000
Actual profit (under Marginal Costing)			46,80,000

On Absorption Costing Basis

Statement of Cost and Profit for the year ending 31st March,				(₹)
Sales	(3,10,000 units × ₹ 80)	(a)		2,48,00,000
Costs:				
Variable cost of production	(3,20,000 units × ₹ 40)			1,28,00,000
Fixed production overhead	(3,20,000 units × ₹ 6)			19,20,000
				1,47,20,000
Add: Opening stock	[₹ 1,47,20,000 × (40,000/3,20,000)]			18,40,000
				1,65,60,000
Less: Closing stock	[₹ 1,47,20,000 × (50,000/3,20,000)]			23,00,000
Cost of production	(3,10,000 units)			1,42,60,000
Add: Selling expenses				
Variable	(3,10,000 units × ₹ 12)		37,20,000	
Fixed			16,00,000	53,20,000
Cost of sales		(b)		1,95,80,000
Unadjusted profit		(a) - (b)		52,20,000
Less: Under absorbed fixed production overhead				4,80,000
Actual profit (under Absorption Costing)				47,40,000

Shutdown Point (₹)

$$= \frac{\text{Fixed cost} - \text{Shutdown cost}}{\text{Contribution p.u.}} \times \text{Selling price p.u.}$$

Chapter 17 : Standard Costing

Standard Overhead Rates

$$\text{Standard Variable Overhead Rate} = \frac{\text{Budgeted Variable Overheads for Budget Period}}{\text{Budgeted Production in Units or Budgeted Hours for Budget Period}}$$

$$\text{Standard Fixed Overhead Rate} = \frac{\text{Budgeted Fixed Overheads for Budget Period}}{\text{Budgeted Production in Units or Budgeted Hours for Budget Period}}$$

Standard Hour

The standard hour is a unit of work and not of time. The quantum of work done in one hour is known as 'standard hour'.

Example - A furniture company manufactures different varieties of products like Single bed cots, Double bed cots, tables, chairs, cabinets etc. The computation of standard hours of those products are illustrated as below:

Products	Standard Hours per unit	Quantity produced	Output in Standard hours
Single cot beds	15	400	6,000
Double cot beds	22	600	13,200
Tables	8	1000	8,000
Chairs	5	1500	7,500
Cabinets	9	650	5,850

Direct Material Variances

Direct Material Cost Variance

$$\begin{aligned} &= \text{Standard material cost} - \text{Actual material cost} \\ &= (\text{Standard quantity for actual output} \times \text{Standard price}) - (\text{Actual quantity} \times \text{Actual price}) \\ &= (\text{SQ} \times \text{SP}) - (\text{AQ} \times \text{AP}) \end{aligned}$$

Standard Quantity for Actual Output

$$\begin{aligned} &= \frac{\text{Standard Material Quantity}}{\text{Standard Output}} \times \text{Actual Output} \\ &= \text{Actual output} \times \text{Standard quantity of material required per unit} \end{aligned}$$

Material price variance is again further classified into: (1) Material price variance, and (2) Material usage variance.

Direct Material Price Variance

$$\begin{aligned} &= \text{Standard cost of actual quantity} - \text{Actual cost} \\ &= (\text{AQ} \times \text{SP}) - (\text{AQ} \times \text{AP}) \\ &= \text{Actual quantity} \times (\text{Standard price} - \text{Actual price}) \\ &= (\text{SP} - \text{AP}) \times \text{AQ} \end{aligned}$$

Direct Material Usage Variance

$$\begin{aligned} &= \text{Standard cost of standard quantity for actual output} - \text{Standard cost of actual quantity} \\ &= (\text{SQ} \times \text{SP}) - (\text{AQ} \times \text{SP}) \\ &= (\text{Standard quantity for actual output} - \text{Actual quantity}) \times \text{Standard price} \\ &= (\text{SQ} - \text{AQ}) \times \text{SP} \end{aligned}$$

Material Usage Variance is again further classified into (1) Material Mix Variance, and (2) Material Yield Variance.

Direct Material Mix Variance

$$\begin{aligned} &= \text{Standard cost of actual quantity in standard proportion} - \text{Standard cost of actual quantity} \\ &= (\text{RAQ} \times \text{SP}) - (\text{AQ} \times \text{SP}) \\ &= (\text{Revised standard quantity} - \text{Actual quantity}) \times \text{Standard price} \\ &= (\text{RAQ} - \text{AQ}) \times \text{SP} \end{aligned}$$

*Revised Actual Quantity

$$\begin{aligned} &= \text{Actual quantity rewritten in standard proportion} \\ &= \frac{\text{Standard quantity of one material}}{\text{Total Std. quantities of all materials}} \times \text{Total actual quantities of all materials} \end{aligned}$$

Direct Material Yield Variance

$$\begin{aligned} &= \text{Std. cost of std. quantity for actual output} - \text{Std. cost of actual quantity in std. proportion} \\ &= (\text{SQ} \times \text{SP}) - (\text{RAQ} \times \text{SP}) \\ &= (\text{SQ} - \text{RAQ}) \times \text{SP} \\ &= (\text{Actual yield} - \text{Standard yield for actual output}) \times \text{Standard output price} \\ &= (\text{SY} - \text{AY}) \times \text{SOP} \end{aligned}$$

Standard Yield for Actual Output (SY)

$$\begin{aligned} &= \text{Expected output from actual total input} \\ &= \frac{\text{Standard Output}}{\text{Total Std. Quantities of All Materials}} \times \text{Total Actual Quantities of All Materials} \end{aligned}$$

Standard Output Price (SOP)

$$= \frac{SQ \times SP}{\text{Standard Output}}$$

Basic Data for Computation of Direct Material Variances

Material Type	SQ*	SP	AQ	AP	RSQ*	SQ x SP (1)	AQ x AP (2)	AQ x SP (3)	RSQ x SP (4)
Material X	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Material Y	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Total						xxx	xxx	xxx	xxx

*SQ = Standard quantity for actual output

*RSQ = Revised standard quantity for revised material mix

Verification Table

(₹)

Material Mix Variance	(A)	(RSQ x SP) - (AQ x SP)	(4 - 3)	xxx
Material Yield Variance	(B)	(SQ x SP) - (RSQ x SP)	(1 - 4)	xxx
Material Usage Variance (A + B)	(C)	(SQ x SP) - (AQ x SP)	(1 - 3)	xxx
Material Price Variance	(D)	(AQ x SP) - (AQ x AP)	(3 - 2)	xxx
Material Cost Variance (C + D)	(E)	(SQ x SP) - (AQ x AP)	(1 - 2)	xxx

Direct Labour Variances

Direct Labour Cost Variance

= Standard cost - Actual cost

= Standard labour cost for actual output - Actual labour cost

= (Std. hours of actual production × Std. rate per hour) - (Actual hours × Actual rate per hour)

= (SH × SR) - (AH × AR)

Standard Labour Hours for Actual Output

$$= \frac{\text{Standard Labour Hours}}{\text{Standard Output}} \times \text{Actual Output}$$

= Actual output × Standard labour hours per unit

Labour Cost Variance is further segregated into: (1) Labour Rate Variance, and (2) Labour Efficiency Variance.

Direct Labour Rate Variance

= Standard cost of actual time paid for - Actual cost

= (AH × SR) - (AH × AR)

= (Standard rate - Actual rate) × Actual hours paid for

= (SR - AR) × AH

Direct Labour Efficiency Variance

= Standard cost of standard time for actual output - Standard cost of actual time

= (SH × SR) - (AH × SR)

= (Standard hours for actual output - Actual hours worked) × Standard rate

= (SH - AH) × SR

Labour Efficiency Variance 'without Idle Time' can be classified into: (1) Labour Mix Variance, and (2) Labour Yield Variance.

Labour Efficiency Variance 'with Idle Time' can be classified into: (1) Labour Idle Time Variance, and (2) Labour Net Efficiency Variance.

Direct Labour Mix Variance

= Std. cost of actual time worked in std. proportion - Std. cost of actual time worked

= (RAH x SR) - (AH# x SR)

= (Revised actual hours* - Actual hours) x Standard rate

= (RAH - AH#) x SR

*AH = Actual hours worked

*RAH = Revised actual hours = Actual hours worked rewritten in standard proportion

*Revised Actual Hours (RAH)

= $\frac{\text{Standard hours of one grade of labour}}{\text{Total standard hours of all grades of labour}} \times \text{Total actual hours}$

Direct Labour Yield Variance

It is also called as 'Labour Sub-efficiency Variance'.

Labour Revised Efficiency Variance

= Std. cost of std. time for actual output - Std. cost of actual time worked in std. proportion

= (SH x SR) - (RAH x SR)

= (Standard hours for actual output - Revised actual hours) x Standard rate

= (SH - RAH) x SR

Direct Labour Idle Time Variance

= Actual idle hours x Standard rate per hour

= (Actual hours paid - Actual hours worked) x Standard rate

= (AH - AH) x SR

= IH x SR

Direct Labour Net Efficiency Variance

Labour Revised Efficiency Variance

= Standard cost of standard time for actual output - Standard cost of actual time worked

= (SH x SR) - (AH* x SR) *AH = Actual hours worked

= (SH - AH*) x SR

Labour Net Efficiency variance can be classified into: (1) Labour Mix Variance, and (2) Labour Yield or Sub-efficiency Variance.

Basic Data for Computation of Direct Labour Variances (without Idle Time)

Material Type	SH*	SR	AH	AR	RAH#	SH x SR (1)	AH x AR (2)	AH x SR (3)	RAH x SR (4)
Skilled	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Unskilled	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Total						xxx	xxx	xxx	xxx

* SH = Standard hours for actual output

RAH = Revised actual hours = Actual hours rewritten in standard proportion

Verification Table					(₹)
Labour Mix Variance	(A)	$(RAH \times SR) - (AH \times SR)$	(4 - 3)		xxx
Labour Yield Variance	(B)	$(SH \times SR) - (RAH \times SR)$	(1 - 4)		xxx
Labour Efficiency Variance (A + B)	(C)	$(SH \times SR) - (AH \times SR)$	(1 - 3)		xxx
Labour Rate Variance	(D)	$(AH \times SR) - (AH \times AR)$	(3 - 2)		xxx
Labour Cost Variance (C + D)	(E)	$(SH \times SR) - (AH \times AR)$	(1 - 2)		xxx

Basic Data for Computation of Direct Labour Variances (with Idle Time)

Material Type	SH*	S R	AH	AR	APH#	RPH#	SH x SR (1)	AH x AR (2)	AH x SR (3)	APHxSR (4)	RPHxSR (5)
Skilled	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Unskilled	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Total						xxx	xxx	xxx	xxx	xxx	xxx

* SH = Standard hours for actual output # APH = Actual productive hours (i.e. Actual hours paid - Idle hours)

RPH = Revised Productive Hours = Actual productive hours rewritten in standard proportion

Verification Table					(₹)
Labour Mix Variance	(A)	$(RPH \times SR) - (APH \times SR)$	(5 - 4)		xxx
Labour Yield Variance	(B)	$(SH \times SR) - (RPH \times SR)$	(1 - 5)		xxx
Labour Idle Time Variance	(C)	$(SH \times SR) - (RPH \times SR)$	(4 - 3)		(xxx)
Labour Efficiency Variance (A + B + C)	(D)	$(SH \times SR) - (AH \times SR)$	(1 - 3)		xxx
Labour Rate Variance	(E)	$(AH \times SR) - (AH \times AR)$	(3 - 2)		xxx
Labour Cost Variance (D + E)	(F)	$(SH \times SR) - (AH \times AR)$	(1 - 2)		xxx

Variable Overhead Variances

Variable Overhead Cost Variance

- = Std. variable overheads absorbed for actual output - Actual variable overheads incurred
- = (Std. hours for actual output × Std. overhead rate per hour) - (Actual hours × Actual overhead rate per hour)
- = $(SH \times SR) - (AH \times AR)$

Standard Hours for Actual Output (SH)

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

Standard Variable Overhead Rate Per Hour (SR)

$$= \frac{\text{Budgeted Variable Overheads}}{\text{Budgeted Hours}}$$

Variable Overhead Cost Variance is classified into: (1) Variable Overhead Expenditure Variance, and (2) Variable Overhead Efficiency Variance.

Variable Overhead Expenditure Variance

It is also called as 'Variable Overhead Budget Variance'.

- = Budgeted variable overheads for actual hours - Actual variable overheads
- = (Standard variable overhead rate × Budgeted output) - Actual variable overheads
- = (Std. hours for budgeted output × Std. variable overhead rate per hour) - Actual variable overheads
- = (Standard overheads absorption rate per hour - Actual rate per hour) × Actual hours

$$= (\text{Standard rate per hour} \times \text{Actual hours}) - (\text{Actual rate per hour} \times \text{Actual hours})$$

$$= (\text{SR} \times \text{AH}) - (\text{AR} \times \text{AH}) = (\text{SR} - \text{AR}) \times \text{AH}$$

Variable Overhead Efficiency Variance

$$= \text{Absorbed variable overhead} - \text{Standard variable overhead}$$

$$= (\text{Std. hours for actual output} \times \text{Std. variable overhead rate}) - (\text{Actual hours} \times \text{Std. variable overhead rate})$$

$$= (\text{SH} \times \text{SR}) - (\text{AH} \times \text{SR})$$

$$= (\text{Standard hours} - \text{Actual hours}) \times \text{Standard variable overhead rate}$$

$$= (\text{SH} - \text{AH}) \times \text{SR}$$

Basic Data for Computation of Variable Overhead Variances

Absorbed Overheads (SH x SR) (1)	Standard Overheads (AH x SR) (2)	Actual Overheads (AH x AR) (3)	
			(₹)
Verification Table			
Variable Overhead Efficiency Variance	(A)	(SH x SR) - (AH x SR)	(1 - 2) xxx
Variable Overhead Expenditure Variance	(B)	(AH x SR) - (AH x AR)	(2 - 3) xxx
Variable Overhead Cost Variance (A + B)	(C)	(SH x SR) - (AH x AR)	(1 - 3) xxx

Fixed Overhead Variances

Fixed Overhead Cost Variance

$$= \text{Absorbed or Recovered fixed overheads} - \text{Actual fixed overheads}$$

$$= \text{Standard fixed overhead for actual output} - \text{Actual fixed overhead}$$

$$= (\text{Std. hours for actual output} \times \text{Std. fixed overhead recovery rate}) - (\text{Actual hours} \times \text{Actual rate})$$

$$= (\text{SH} \times \text{SR}) - (\text{AH} \times \text{AR})$$

Standard Hours for Actual Output (SH)

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

Standard Fixed Overhead Rate Per Hour (SR)

$$= \frac{\text{Budgeted Fixed Overheads}}{\text{Budgeted Hours}}$$

Fixed Overhead Cost Variance is again further segregated into: (1) Fixed Overhead Expenditure Variance, and (2) Fixed Overhead Volume Variance.

Fixed Overhead Expenditure Variance

This variance is also called 'Fixed Overhead Budget Variance'.

$$= \text{Budgeted fixed overheads} - \text{Actual fixed overheads}$$

$$= (\text{Budgeted hours} \times \text{Standard fixed overhead rate}) - (\text{Actual hours} \times \text{Actual fixed overhead rate})$$

$$= (\text{BH} \times \text{SR}) - (\text{AH} \times \text{AR})$$

Fixed Overhead Volume Variance

$$= \text{Absorbed fixed overheads} - \text{Budgeted fixed overheads}$$

$$= \text{Standard fixed overhead for actual output} - \text{Budgeted fixed overhead}$$

$$= (\text{Std. hours for actual output} \times \text{Std. fixed overhead rate}) - (\text{Budgeted hours} \times \text{Std. fixed overhead rate})$$

$$= (\text{SH} \times \text{SR}) - (\text{BH} \times \text{SR})$$

$$= (\text{Standard hours for actual output} - \text{Budgeted hours}) \times \text{Standard rate}$$

$$= (\text{SH} - \text{BH}) \times \text{SR}$$

Fixed Overhead Volume Variance is again further classified into: (1) Fixed Overhead Capacity Variance, and (2) Fixed Overhead Efficiency Variance.

If the days and hours of planned during the budget period and the actual days and hours worked are known, the efficiency, capacity and calendar variances can be calculated.

Fixed Overhead Capacity Variance

$$= \text{Budgeted fixed overheads for actual hours worked} - \text{Budgeted fixed overheads}$$

$$= (\text{Actual hours} \times \text{Std. fixed overhead rate}) - (\text{Budgeted hours} \times \text{Std. fixed overhead rate})$$

$$= (\text{AH} \times \text{SR}) - (\text{BH} \times \text{SR})$$

$$= (\text{Actual hours} - \text{Budgeted hours}) \times \text{Standard rate}$$

$$= (\text{AH} - \text{BH}) \times \text{SR}$$

Fixed Overhead Efficiency Variance

$$= \text{Absorbed fixed overheads} - \text{Budgeted fixed overheads for actual hours worked}$$

$$= (\text{Std. hours for actual output} \times \text{Std. fixed overhead rate}) - (\text{Actual hours} \times \text{Std. fixed overhead rate})$$

$$= (\text{SH} \times \text{SR}) - (\text{AH} \times \text{SR})$$

$$= (\text{Standard output in units} - \text{Actual output in units}) \times \text{Standard rate per unit}$$

$$= (\text{Standard hours for actual output} - \text{Actual hours worked}) \times \text{Standard rate per hour}$$

$$= (\text{SH} - \text{AH}) \times \text{SR}$$

Fixed Overhead Calendar Variance

$$= \text{Possible fixed overheads} - \text{Budgeted fixed overheads}$$

$$= (\text{Possible hours} \times \text{Std. fixed overhead rate}) - (\text{Original budgeted hours} \times \text{Std. fixed overhead rate})$$

$$= (\text{PH} \times \text{SR}) - (\text{BH} \times \text{SR})$$

$$= (\text{Possible hours} - \text{Budgeted hours}) \times \text{Standard rate}$$

$$= (\text{PH} - \text{BH}) \times \text{SR}$$

$$= (\text{Actual working days} - \text{Budgeted working days}) \times \text{Standard fixed overhead rate}$$

Possible Hours

$$= \frac{\text{Budgeted Hours}}{\text{Budgeted No. of Working Days}} \times \text{Actual No. of Working Days}$$

$$= \text{Standard working hours per day} \times \text{Actual number of working days}$$

Fixed Overhead Revised Capacity Variance

$$= \text{Budgeted fixed overheads for actual hours worked} - \text{Possible fixed overheads}$$

$$= (\text{Actual hours} - \text{Possible hours}) \times \text{Standard fixed overhead rate}$$

$$= (\text{AH} - \text{PH}) \times \text{SR}$$

Possible Hours

$$= \frac{\text{Budgeted Hours}}{\text{Budgeted No. of Working Days}} \times \text{Actual No. of Working Days}$$

$$= \text{Standard working hours per day} \times \text{Actual number of working days}$$

Basic Data for Computation of Fixed Overhead Variances
(When Actual Working Days are Equal to Budgeted Working Days)

Absorbed Overheads (SH x SR) (1)	Standard Overheads (AH x SR) (2)	Budgeted Overheads (BH x SR) (3)	Actual Overheads (AH x AR) (4)
--	--	--	--------------------------------------

Verification Table

				(₹)
Fixed Overhead Efficiency Variance	(A)	(RSQ x SP) - (AQ x SP)	(1 - 2)	xxx
Fixed Overhead Capacity Variance	(B)	(SQ x SP) - (RSQ x SP)	(2 - 3)	xxx
Fixed Overhead Volume Variance (A + B)	(C)	(SH x SR) - (BH x SR)	(1 - 3)	xxx
Fixed Overhead Expenditure Variance	(D)	(AQ x SP) - (AQ x AP)	(3 - 4)	xxx
Fixed Overhead Cost Variance (C + D)	(E)	(SQ x SP) - (AQ x AP)	(1 - 4)	xxx

Basic Data for Computation of Fixed Overhead Variances
(When Actual Working Days are Equal to Budgeted Working Days)

Absorbed Overheads (SH x SR) (1)	Standard Overheads (AH x SR) (2)	Budgeted Overheads (BH x SR) (3)	Revised Budgeted Overheads (RBH x SR) (4)	Actual Overheads (AH x AR) (5)
--	--	--	---	--------------------------------------

Verification Table

				(₹)
Fixed Overhead Efficiency Variance	(A)	(SH x SR) - (AH x SR)	(1 - 2)	xxx
Fixed Overhead Capacity Variance	(B)	(AH x SR) - (BH x SR)	(2 - 3)	xxx
Fixed Overhead Calendar Variance	(C)	(BH x SR) - (RBH x SR)	(3 - 4)	xxx
Fixed Overhead Volume Variance (A + B + C)	(D)	(SH x SR) - (BH x SR)	(1 - 3)	xxx
Fixed Overhead Expenditure Variance	(E)	(RBH x SR) - (AH x AR)	(4 - 5)	xxx
Fixed Overhead Cost Variance (D + E)	(F)	(SH x SR) - (AH x AR)	(1 - 5)	xxx

Journal Entries in Single Plan

Under the Single Plan, Journal Entries with appropriate narration is given for the following entries: (₹)

Particulars	Debit	Credit
(i) Material control A/c	Dr.	
Material price variance A/c	Dr.	
To Creditors		
(Being price variance during purchase of materials)		
(ii) Work-in-progress A/c	Dr.	
Material usage variance A/c	Dr.	
To Material control A/c		
(Being recording of usage variance at standard cost of excess/under utilized quantity)		
(iii) Wages control A/c	Dr.	
Labour rate variance A/c	Dr.	
To Cash A/c		
(Being entry to record wages at standard rate)		

Chapter 18 : Budgeting and Budgetary Control

Units to be Produced (Production Budget)

= Budgeted Sales Units + Closing Stock of Finished Goods - Opening Stock of Finished Goods

Materials Usage (Production Budget)

= Opening Stock + Purchases - Closing Stock

Units to be Purchased (Purchases Budget)

= Closing Stock + Usage - Opening Stock

Sales Budget for the period ending

Particulars	Northern Region		Eastern Region		Western Region		Southern Region		Total	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
Product X :										
Quarter 1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Quarter 2	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Quarter 3	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Quarter 4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Sub-total	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Product Y :										
Quarter 1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Quarter 2	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Quarter 3	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Quarter 4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Sub-total	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Grand Total	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

Production Budget for the period ending

Particulars	Product A	Product B
Budgeted Sales Quantity	xxx	xxx
Add : Budgeted Closing Stock of Finished Goods	xxx	xxx
	xxx	xxx
Less : Budgeted Opening Stock of Finished Goods	xxx	xxx
Budgeted Production Quantity	xxx	xxx

Direct Material Usage Budget for the period ending

Particulars	Product A	Product B	Total
Budgeted Production Quantity	xxx	xxx	
Direct material consumption per unit (₹)	xxx	xxx	
Budgeted consumption of material (₹)	xxx	xxx	
Purchase price per unit of material (₹)	xxx	xxx	
Budgeted Value of Material Usage (₹)	xxx	xxx	xxx

Direct Material Purchase Budget for the period ending

Particulars	Material X	Material Y	Total
Budgeted consumption of material (Quantity)	xxx	xxx	
Add : Required Closing Inventory (Quantity)	xxx	xxx	
Total Requirement (Quantity)	xxx	xxx	
Less : Closing Inventory (Quantity)	xxx	xxx	
Budgeted Purchase of Material (Quantity)	xxx	xxx	
Budgeted Purchase per unit (₹)	xxx	xxx	
Budgeted Material Purchases (₹)	xxx	xxx	xxx

Direct Labour Cost Budget for the period ending

Particulars	Product A	Product B	Total
Budgeted Production Quantity	xxx	xxx	
Direct labour hours per unit of output	xxx	xxx	
Budgeted total direct labour hours	xxx	xxx	
Rate per direct labour hour (₹)	xxx	xxx	
Budgeted Direct Labour Costs (₹)	xxx	xxx	xxx

Manufacturing Overhead Budget for the period ending (Budgeted Direct Labour Hours : xxx) (₹)

Particulars	Quarter I	Quarter II	Quarter III	Quarter IV	Total
<u>Variable Manufacturing Overhead :</u>					
Factory supplies	xxx	xxx	xxx	xxx	xxx
Indirect wages (including fringe benefits)	xxx	xxx	xxx	xxx	xxx
Power (variable portion)	xxx	xxx	xxx	xxx	xxx
Maintenance (variable portion)	xxx	xxx	xxx	xxx	xxx
Total of Variable Manufacturing Overhead	xxx	xxx	xxx	xxx	xxx
<u>Fixed Manufacturing Overhead :</u>					
Factory rent	xxx	xxx	xxx	xxx	xxx
Rates and taxes	xxx	xxx	xxx	xxx	xxx
Depreciation of factory building	xxx	xxx	xxx	xxx	xxx
Depreciation of plant and machinery	xxx	xxx	xxx	xxx	xxx
Factory supervision	xxx	xxx	xxx	xxx	xxx
Factory insurance	xxx	xxx	xxx	xxx	xxx
Production planning and control	xxx	xxx	xxx	xxx	xxx
Power (fixed portion)	xxx	xxx	xxx	xxx	xxx
Maintenance (fixed portion)	xxx	xxx	xxx	xxx	xxx
Total Fixed Manufacturing Overhead	xxx	xxx	xxx	xxx	xxx
Total Manufacturing Overhead	xxx	xxx	xxx	xxx	xxx

$$\text{Manufacturing Overhead Recovery Rate} = \frac{\text{Total Manufacturing Overhead p.a.}}{\text{Budgeted Direct Labour Hours p.a.}}$$

Administration Overhead Budget for the period ending

(₹)

Particulars	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Variable Administration Overhead :					
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
Fixed Administration Overhead :					
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
Total Administration Overhead	xxx	xxx	xxx	xxx	xxx

Cost of Goods Sold Budget for the period ending

(₹)

Budgeted Direct material consumption	xxx
Budgeted Direct labour cost	xxx
Budgeted Direct expenses	xxx
Budgeted Prime Cost	xxx
Add : Budgeted Manufacturing overhead	xxx
Budgeted Manufacturing Cost	xxx
Add : Budgeted Administration overhead	xxx
Budgeted Cost of Production	xxx
Add : Opening stock of Finished goods	xxx
	xxx
Less : Closing stock of Finished goods	xxx
Budgeted Cost of Goods Sold	xxx

Selling and Distribution Overhead Budget for the period ending

(₹)

Particulars	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Variable Selling Overhead :					
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
Fixed Selling Overhead :					
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
Total Selling Overhead (a)	xxx	xxx	xxx	xxx	xxx

Variable Distribution Overhead :					
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>
Fixed Distribution Overhead :					
.....	xxx	xxx	xxx	xxx	xxx
.....	xxx	xxx	xxx	xxx	xxx
	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>
Total Distribution Overhead (b)	xxx	xxx	xxx	xxx	xxx
Total Selling and Distribution Overhead (a) + (b)	xxx	xxx	xxx	xxx	xxx

Budgetary Control Ratios

$$\text{Efficiency Ratio} = \frac{\text{Standard Hours for Actual Production}}{\text{Actual Hours Worked}} \times 100$$

$$\text{Activity Ratio} = \frac{\text{Standard Hours for Actual Production}}{\text{Budgeted Hours}} \times 100$$

$$\text{Or} = \text{Efficiency Ratio} \times \text{Capacity Ratio}$$

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

$$\text{Or} = \frac{\text{Activity Ratio}}{\text{Efficiency Ratio}} \times 100$$

$$\text{Calendar Ratio} = \frac{\text{Actual Number of Working Days}}{\text{Budgeted Number of Working Days}} \times 100$$

Flexible Budget

Flexible Budget of XYZ Ltd.

Normal Activity Level:		Period ending:		
Particulars		Capacity		
		50%	80%	100%
1. Prime cost		xxx	xxx	xxx
2. Variable overheads		<u>xxx</u>	<u>xxx</u>	<u>xxx</u>
3. Marginal cost	[(1) + (2)]	xxx	xxx	xxx
4. Sales		<u>xxx</u>	<u>xxx</u>	<u>xxx</u>
5. Contribution	[(4) - (3)]	xxx	xxx	xxx
6. Fixed cost		<u>xxx</u>	<u>xxx</u>	<u>xxx</u>
7. Profit	[(5) - (6)]	xxx	xxx	xxx

Cash Budget

Cash Budget of XYZ Ltd. for the period		(₹)
Opening Balance of Cash	(a)	xxx
Receipts:		
Cash sales		xxx
Collection from debtors		xxx
Dividend/Interest received		xxx

		(₹)
Sale of fixed assets		xxx
Sale of investments		xxx
Raising of loans		xxx
Tax refund		xxx
Other capital/revenue receipts		xxx
	(b)	xxx
Payments:		
Creditors for materials		xxx
Creditors for wages and expenses		xxx
Debenture interest		xxx
Dividend		xxx
Purchase of fixed assets		xxx
Purchase of investments		xxx
Repayment of loans		xxx
	(c)	xxx
Surplus/Shortage	(b) - (c) = (d)	xxx
Closing Balance of Cash	(a) + (d)	xxx

BASIC – COSTING

Cost: The amount of expenditure incurred on or attributable to a specified article, product or activity.

Costing: C.I.M.A. England defines costing as the technique and process of ascertaining costs. **Wheldon** has defined it as “the classifying, recording and appropriate allocation of expenditure for the determination of costs of products or services; the relation of these costs to sales values and the ascertainment of profitability.

Cost Accounting: The process of accounting for cost which begins with the recording of income and expenditure or the bases on which they are calculated and ends with the preparation of periodical statements and reports for ascertaining and controlling costs.

1. OBJECTIVES OF COST ACCOUNTING

The main objectives of cost accounting are as follows:

1. **Ascertainment of cost:** The primary objective of costing accounting is to ascertain the cost of various products, jobs, services, etc.
2. **Determination of selling price:** Cost accounting provides detailed information about the composition of total cost for determination of the selling price of the product or service.
3. **Cost control:** Cost control is one of the important functions of cost accounting. Cost control aims at improving efficiency by controlling and reducing cost.
4. **Help in preparation of financial and other statements:** A fully developed cost accounting system progress and finished goods. This facilitates the preparation of financial and other statements.

2. ADVANTAGES OF COST ACCOUNTING

1. **Supplies detailed cost information:** Cost accounting supplies detailed and regular cost information to the management. Such information helps the management to ascertain the cost of various products, jobs, departments, services, etc.
2. **Helps in price fixation:** Cost plays an important role in price fixation. Cost accounting assists the management in fixing up selling price not only during normal business but also during depression period when prices may have to be fixed below cost.
3. **Reveals profitable and unprofitable activities:** In cost accounting, costs are ascertained by products, jobs, processes or departments. The management can distinguish between profitable and unprofitable activities and takes steps to improve the operating efficiency of unprofitable lines, or consider the modification or elimination of such activities.
4. **Reveals idle capacity:** There may be idle capacity in a concern due to shortage of demand, breakdown of machinery, or other bottlenecks of production. Cost accounting helps the management to ascertain the cost of idle capacity and take steps to improve capacity utilisation.
5. **Helps in decision making :** Cost accounting provides information and data to the management to serve as guide for managerial decisions like make or buy, introduction of a new product, shutting down or operating at a loss, selection of most profitable sales-mix, etc.
6. **Helps in formulating policies:** Besides recording and analysing costs, cost accounting system also provides vital information to the management to formulate various policies. It also serves as a reliable base for making estimates and submitting tenders.
7. **Assists in controlling costs:** Cost accounting helps in cost control which aims at improving efficiency by controlling and reducing cost. Budgetary control and standard costing are two important cost accounting techniques which are used to control costs.
8. **Provides a check on the accuracy of financial accounting:** Cost accounting provides a reliable check on the accuracy of financial accounting through reconciliation of profits shown by the two systems of accounting. This is done at the end of the accounting period.

3. LIMITATIONS OF COST ACCOUNTING

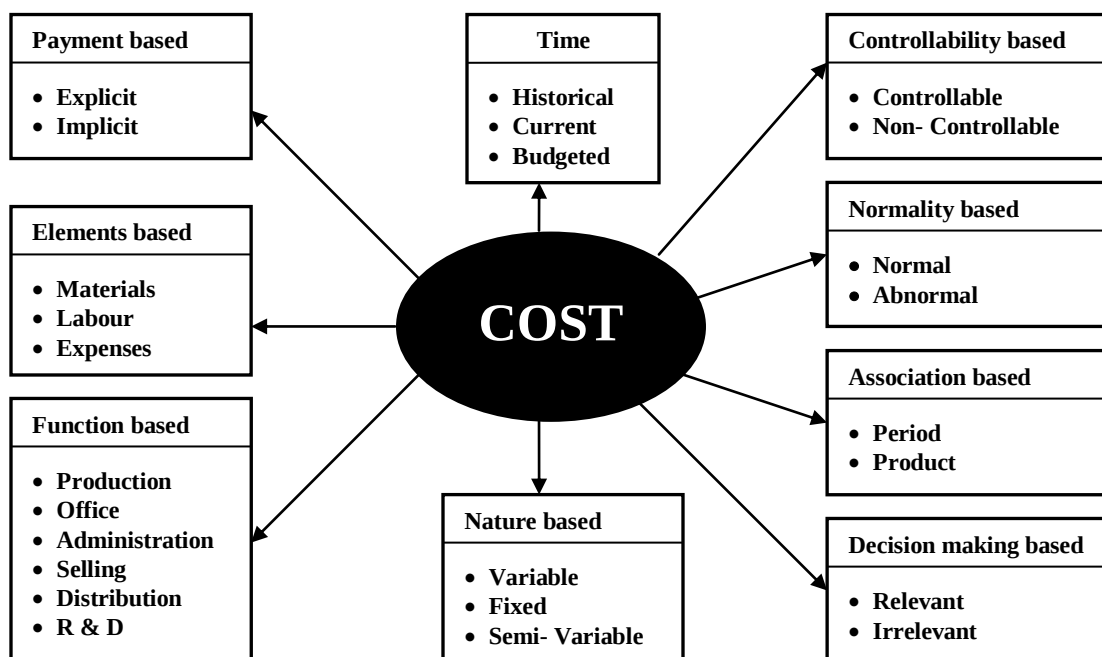
1. Cost accounting does not follow a uniform procedure. It is possible that two equally competent cost accountants may arrive at different results can be taken as mere estimates.
2. There are a large number of conventions, estimates and flexible factors such as classification of cost into its elements, issue of materials on average or standard price, apportionment of overhead expenses, allocation of joint costs, division of overhead into fixed and variable costs, division of costs into normal and abnormal and controllable and non-controllable and adoption of marginal and standard costs due to which it becomes difficult to have exact costs. Moreover, no one cost is suitable for all purposes and under all circumstances.
3. For getting the benefits of cost accounting many formalities are to be observed by a small and medium size concern due to which the establishment and running costs are so much that it becomes size concern due to which the establishment and running costs are so much that it becomes difficult for these concerns to afford its cost. Thus cost accounting can be used only by big concerns.
4. The contribution of cost accounting for handling futuristic situations has not been much. For example, it has not evoked so far any tool for handling inflationary situation.

4. Methods of Costing

1. **Job costing:** Job costing refers to a system of costing in which costs are ascertained in terms of specific jobs or work orders which are not comparable with each other. In this method, the cost of each job or order is ascertained separately. It is suitable in all those cases where work is undertaken on receiving a customer's order like a printing press, automobile garage, repair shop, interior decorator, etc.
2. **Batch costing:** Batch costing is a variation of job costing. In batch costing, a batch of similar products is regarded as one job and the cost of this complete batch is ascertained. Cost per unit is obtained by dividing the cost of the batch by the number of units produced in the batch. This method of costing is used in industries engaged in the manufacture of readymade garments, toys, bicycle parts, etc.
3. **Contract costing:** This is also a variation of job costing and is based on the same principles as is the job costing. The method of contract costing is used where a job is very big and takes a long time to complete. Contrary to this, in Job costing, job is small and of a short duration. Besides, contracts are carried out outside the factory whereas jobs are usually carried out inside the factory.
In contract costing, cost of each contract is ascertained separately. This method of costing is suitable for industries engaged in the construction of bridges, dams, etc. on a contract basis.
4. **Process costing:** In industries where a product passes through distinct stages or processes, the output of one process being the input of the subsequent process, it is desired to ascertain the cost of each stage or process of production. This is known as process costing. Under this method, the cost of each process is determined for a given period of time. Cost per unit is obtained by dividing the total cost of production by the number of units produced during the process. Process costing is extensively used in textile industries, chemical works, oil refineries, paint manufacturing, etc.
5. **Unit or Single or Output costing:** This method is used in industries where a single article is produced by continuous manufacturing activity. As the units of output are identical, the cost per unit is found by dividing the total cost by the number of units produced. This method is suitable in industries like brick-making, collieries; cement manufacturing, flour mills, etc.

- 6. Operating costing:** This method is used in undertakings which render services instead of producing goods e.g., railway, road transport, water supply, electricity companies, telephone services, hospitals, etc. As in case of unit costing, the total expenses of the operation are divided by the units and cost per unit of the service is arrived at. The cost units in case of transport companies and railways are passenger-km. or tonne-km., for electricity company kilowatt-hours, etc. Operating costing is also known as service costing.
- 7. Multiple or Composite costing:** In multiple costing, two or more methods of costing are used in conjunction to determine the cost of the final product. This method of costing is used in industries where different components are separately manufactured and subsequently assembled into a final product. Total cost is ascertained by computing cost of the components through job or process costing and then aggregating the costs through the use of single output costing. This method is used in manufacturing concerns producing motorcars, televisions, ships, computers, etc.

5. CLASSIFICATION OF COST



Classification According to Traceability to Cost Object:

- Direct Costs:** these are those costs which are incurred for and may be conveniently identified with, a particular cost unit, process or department. Cost of raw materials used, wages of machine operators are common examples.
- Indirect Costs:** These costs cannot be conveniently identified with a particular cost unit, process or department. These are general costs and incurred for the benefit of a number of cost units or cost centre. Examples are rent, repairs, depreciation, managerial salaries, coal, lubricating oil, wages of foreman, etc.

Classification According to Cost Behaviour, Nature or Variability:

- Fixed Costs:** these costs remain fixed in 'total' and do not increase or decrease with the volume of production but the fixed cost 'per unit' increases when the volume of production decreases, and vice versa.
- Variable Costs:** These costs change in proportion to the volume of production. In other words, when volume of output increases, total variable cost also increases, and vice versa. But the variable cost per unit remains fixed.

(iii)

Behavior of Cost (within the relevant range)		
Cost	In Total	Per Unit
Variable	Total variable cost changes as activity level changes.	Variable cost per unit remains the same over wide ranges of activity.
Fixed	Total fixed cost remains the same even when the activity level changes.	Average fixed cost per unit goes down as activity level goes up.

(iv) **Semi-variable or Semi-fixed Costs:** These costs are partly fixed and partly variable. A semi-variable cost has often a fixed element below which it will not fall at any level of output and the variable element changes either at a constant rate or in lumps.

Classification into Product Costs and Period Costs:

- (i) **Product Costs:** These are the costs necessary for production and are not incurred when there is no production. For example direct material costs and direct wages are product costs.
- (ii) **Period Costs:** These are those costs which are not included in the cost of products but charged as expenses in the P & L Account of the period in which these are incurred. Examples are rent, managerial salaries, etc.

Classification According to Controllability:

- (i) **Controllable Costs:** These are the costs which may be directly regulated at a given level of management authority. Variable costs are generally controllable by department heads. For example, cost of raw material may be controlled by purchasing in larger quantities.
- (ii) **Uncontrollable Costs:** These are those costs which cannot be influenced by the action of a specified member of an enterprise. Fixed costs are generally uncontrollable. For example, it is very difficult to control costs like factory rent, managerial salaries, etc.

Classification According to Payment:

- (i) **Out of Pocket Costs:** Out of Pocket costs are those which involve cash outlay as against those costs which do not require cash payment. Example - Material cost is an out of pocket cost while depreciation is not an out of Pocket cost.
- (ii) **Imputed cost:** These are notional costs which are not actually incurred. Ex. When a building is owned then no rent paid. This notional rent or the rental value of such a building is an imputed cost which is used for decision making purpose. Such costs are not entered in financial accounts.

Classification According to Decision making:

- (i) **Irrelevant cost** - Cost that don't change the decision is Irrelevant cost
- (ii) **Relevant cost** - Cost that can change the decision is Relevant cost

Opportunity costs - The opportunity cost is the monetary amount associated with the next best use of the resource or the potential benefit that is given up when one alternative is selected over another.

Example: If you were not attending this program, you could save Rs. 10,000 per year. Your opportunity cost?

Sunk costs - Sunk costs have already been incurred and cannot be changed now or in the future. They should be ignored when making decisions. **Example:** You bought an automobile that cost Rs. 10,000 two years ago. The Rs.10,000 cost is sunk because whether you drive it, park it, trade it, or sell it, you cannot change the Rs. 10,000 cost.

6. ELEMENT OF COST

Following are the three broad elements of cost:

(i) **Materials** (ii) **Labour** (iii) **Expenses**

Materials:

The term materials may be defined as the substances from which products are manufactured. These materials may be in a raw or a manufactured state. For example, cotton used in the manufacture of yarn is in a raw state whereas cloth used in dress making is in manufactured state. Materials may be direct or indirect.

Direct materials

Direct Materials are those materials which enter into and become part of the product, e.g. the yarn in cloth, plastic in a pen and iron in tools. Such materials can be conveniently assigned to specific physical units. The following are normally classified direct materials.

Indirect materials

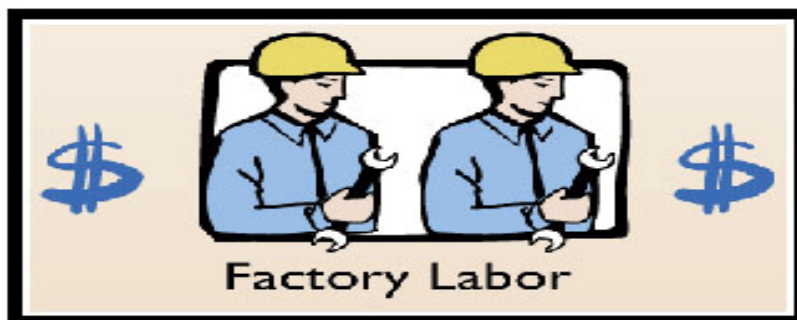
Indirect materials are those materials which do not become part of the product. These materials are consumed in the course of manufacture and cannot be conveniently assigned to specific physical units, e.g. consumable stores, lubricants, cleaning materials for machines, printing and stationery, etc.

Labour

The term labour may be defined as the human effort by which materials are converted into finished products. Labour may be direct or indirect.

Direct Labour

Direct labour is the labour which takes an active part in the production of a particular product. Such labour is used in altering the construction, composition or condition of the product. Direct labour can be conveniently assigned to specific physical units.



Indirect labour

Indirect Labour is the labour which is not directly engaged in the production operations but engaged to assist or help the production operations. Such labour does not alter the construction, composition or condition of the product. Examples of indirect labour costs are wages of foremen, storekeepers, director's fee, salary of office manager, salary of salesman, etc.

Expenses

Costs other than materials cost and labour cost is known as expenses, e.g. rent of the factory, insurance of office, etc. Expenses may be direct or indirect.

Direct expenses

Direct expenses or chargeable expenses are those expenses which can be directly and conveniently allocated to specific cost units/centres.

Indirect expenses

Indirect expenses are those expenses which cannot be directly and conveniently allocated to specific cost units/centres. Examples of such expenses are: Rent, rates and insurance of factory building, power, depreciation of plant and machinery, office rent, postage and telegram, bank charges, advertisement expenses, bad debts, carriage outwards, packing charges, etc.

Overheads

The total of indirect materials, indirect labour and indirect expenses is termed as overheads. Overheads may be classified into three groups.

- (i) Factory overheads
- (ii) Office and administration overheads
- (iii) Selling and Distribution overheads

Factory overheads

Factory overheads are those expenses which are incurred in the factory during the course of production. They are also known as manufacturing, works or production overheads. Factory overheads include indirect materials indirect labour and indirect expenses.



Office and administration overheads

Office and administration overheads refer to the cost of formulating the policy, directing the organisation and controlling the operations of an undertaking. They pertain to the management and administration of the business. These overheads consist of indirect material, indirect labour and indirect expenses.

Selling and distribution overheads

These overheads, sometimes referred to as marketing overheads, relate to the expenses incurred for marketing of products, for securing orders, dispatching goods sold and for making efforts to find and retain customers. Again these overheads include indirect materials, indirect labour and indirect expenses.

7. Cost centre

C.I.M.A., England, has defined the term **cost centre** as “a **location** (production department, sales area), **person** (foreman, store keeper) , **or item of equipment** (a machine, a delivery van) or **group of these** for which costs may be ascertained and used for the purpose of cost control.” Cost centres are of two types viz., Personal and Impersonal Cost Centre

- **A Personal Cost Centre** is one which consists of a person or group of persons
- **An Impersonal cost centre** consists of a location or an item of equipment (or group of these).

In manufacturing concern there are two main types of cost centres:

- (i) **Production Cost Centre:** It is a cost centre where raw material is handled for conversion into finished product. Here both direct and indirect expenses are incurred. Machine shops, welding shops and assembly shops are examples of production cost centres.
- (ii) **Service Cost Centre:** It is a Cost centre which serves as an ancillary unit and renders services to a production centre. Power house, Stores services centres, repair shop, Plant maintenance centres are examples of service cost centres.

8. Profit Centre

It is a centre whose performance is measured both in terms of expenses incurred and revenues earned by it. Thus, a profit centre is that segment of activity of a business for which profit or loss is ascertained by charging the expenses incurred against the revenues earned by it. A profit centre has the responsibility of generating and maximising profits. A profit centre is created to delegate responsibility to individuals and measure their performance.

Cost centres and profit centres

The principle of delegated decision making can then be applied to each company. This is achieved by subdividing each company into profit centres and cost centres

A profit centre could be a retail outlet, a brand, a sales force operating in a geographical location e.g. the North East of England etc. Each profit centre will have a manager who is responsible for ensuring that sales and profit targets are achieved. He must also ensure that costs are kept within the stated budget limits



The manager of a cost centre is only responsible for keeping costs within stated budget limits. He has no responsibility for sales or profits

Cost Centres and Profit Centres

Cost Centres are sections of a business to which costs can be charged

A cost centre in a manufacturing business, for example, is a department of a factory, a particular stage in the production process, or even a whole factory



In a college, examples of cost centres are the teaching departments, or particular sections of departments, e.g. the administrative office

In a hospital, examples of cost centres are the hospital wards, operating theatres, and specialist sections such as the X-ray department, pathology department



9. Difference between a Cost Centre and a Profit Centre

- (i) A cost centre is created for accounting convenience for ascertainment and control of cost. A profit centre is created because of decentralisation of business operations.
- (ii) A cost centre is not autonomous whereas a profit centre is autonomous.
- (iii) A cost centre does not have target cost which must be achieved. Efforts are made in the cost centre to minimise the costs. A profit centre has a profit target and enjoys authority to adopt such policies as would help in achieving its target.

10. Cost Ascertainment and Cost Estimation

Cost ascertainment

Cost ascertainment is the computation of actual costs after they have been incurred. It refers to the methods and process employed in ascertaining costs. Costs are ascertained by using principles of different methods of costing such as job costing, process costing, unit costing, etc.

Cost estimation

Cost estimation is the process of determining in advance the cost of a product, job, order or service. Thus, estimated cost is a futuristic concept. In cost estimation, an allowance is generally made for anticipated fluctuations in the prices of elements of cost, i.e. materials, labour and overheads.

11. Distinguish between Fixed overheads and Variable overheads.

Fixed Overhead These are the expense which remains constant at all the level's of activity. This statement is true only in case of short term. In long term they are also variable eg. Rent of building, Managerial Remuneration's. Fixed overheads are generally indirect to the units produced but may be direct to any department or plan.

Variable Overheads These are often called as marginal cost. It is called variable because it varies with variation in the level of production. It always changes in totality and remains constant per unit. Example: Material Cost, Labour Cost etc.

12. Distinguish between Financial Accounting and Cost Accounting

<i>Basis</i>	<i>Financial Accounting</i>	<i>Cost Accounting</i>
1. Purpose	To prepare P & L A/c and Balance sheet for presentation to shareholders and other external users	To provide detailed cost information to management i.e. internal user.
2. Statutory requirements	This is mandatory under Companies Act, Income Tax Act, etc.	It is voluntary except in specified industries.
3. Cost & profit analysis	It reveals overall profit/loss and cost	It reveals cost and profit or loss for each product, department, etc.
4. Control aspect	It lays emphasis on recording of transactions	It lays emphasis on cost control.
5. Periodicity of reporting	P & L Account and Balance Sheet are generally prepared annually	Cost statements are regularly and frequently prepared at short intervals and presented to management.
6. Past and future costs	It is concerned with past records	It is concerned with past and future costs.

13. Characteristics or an Ideal Costing System

For a good cost accounting system following factors should be consider:

1. The information needs of the management and the level of details needed.
2. The frequency of the information to be provided.
3. The factory layout and production process, method of production and type of process.
4. The level of control to be exercised over production and cost centres.
5. The nature of raw material and labour used in the process.
6. The organisation structure and degree of decentralisation.
7. The speed and accuracy in requirement of information.
8. The requirement of uniformity of accounting for comparability of data with other units in the same industry.
9. The level of application of costing techniques viz., Standard Costing, Budgetary Control and Marginal Costing.
10. Cost minimisation without affecting the efficiency of information needs.
11. The management's intention and the co-operation of workers and staff in installation of costing system.
12. Implementation of proper wage system and inventory valuation, stores issues.
13. Cost Accounting System should be simple to understand and easy to operate.

14. Define explicit cost and implicit cost

Explicit Costs -

- (i) It involve immediate cash payment.
- (ii) It is also known as out of Pocket Cost.
- (iii) Explicit cost can easily be measured and identified.
- (iv) It is recorded in books of Accounts.
- (v) The purpose of explicit cost is Accounting, reporting, control of cost and decision making
- (vi) Examples of explicit cost are wages, salaries advertisement marketing distribution etc.

Implicit Costs -

- (i) Implicit cost does not require immediate cash payment.
- (ii) This cost cannot be easily measured
- (iii) Such costs are not recorded in Books of Accounts.
- (iv) Such cost is used for decision making like asset replacement make, or buy.
- (v) Examples of such costs are Interest on own capital, Rent of own building salary

15. Cost control and Cost reduction

S. No.	Basis	Cost Control	Cost Reduction
1	Meaning	Cost control is the guidance and regulation by executive action of the cost of operating an undertaking.	Cost reduction is the achievement of real and permanent reduction in the unit cost of goods and services without impairing their suitability.
2	Emphasis	It emphasizes on past performance and variance analysis.	It emphasizes on present and future performance without considering the past performance.
3	Approach	It is a conservative approach which stresses on the conformity to the set norms.	It is a dynamic approach where in every function is analysis in view of its contribution.
4	Focus	It is a short term review with focus on reducing cost in a particular period.	It seeks to reduce unit cost on a permanent basis based on a systematic approach.
5	Function	It is a preventive function.	It is a corrective function.

16. Cost allocation and Cost absorption

Cost allocation: It is defined as the process of allotment or identification or assignment of whole items to cost centre or costs units. Thus the charging of direct cost to a cost centre or a cost unit is the process of allocation of costs.

Cost absorption: It is the process of absorbing all indirect costs (or Overheads) allocated or apportioned over particular cost centre or production deptt. by the units produce.

17. Define cost object and give three examples

Cost Objects: Cost object is anything for which a separate measurement of cost is required. Cost object may be a product, a service, a project, a customer, a brand category, an activity, a department or a programme etc.:

18. Direct / Chargeable expenses

These are the expenses which can be directly charged to jobs, products, process, costs centers a unit. These are also called direct expenses. Depending on the situation, the same item of an expense may be treated as a chargeable expenses or an indirect cost. For example the hiring charges of a machine specifically hired to complete a particular job will be a direct charge on the job, but if the same machine is used for various other purposes, then the hiring charges will be treated as an indirect cost and will be apportioned to costs centres on reasonable basis. These expenses in costs are treated as a part of prime cost

19.The essential of a good Cost Accounting System

1. **Informative and Simple:** Cost Accounting System should be tailor-made, practical, simple and capable of meeting the requirements of a business concern.
2. **Accuracy:** The data to be used by the Cost Accounting System should be accurate: otherwise it may distort the output of the system.
3. **Support from Management:** Necessary cooperation and participation of executives from various departments of the concern is essential for developing a good system of Cost Accounting.
4. **Cost Benefit:** The Cost of installing and operating the system should justify the results.
5. **Precise information:** The system of Costing should not sacrifice the utility by introducing meticulous and unnecessary details.
6. **Procedure:** A carefully phased programme should be prepared by using network analysis for the introduction of the system.
7. **Trust:** Management should have faith in the Costing system and should also provide a helping hand for its development and success.

20. Cost Drivers A Cost driver is a factor or variable which effect level of cost. Generally it is an activity which is responsible for cost incurrence. Level of activity or volume of production is the example of a cost driver. An activity may be an event, task, or unit of work etc.

21. Discretionary Costs Such costs are not tied to a clear cause and effect relationship between inputs and outputs. They usually arise from periodic decisions regarding the maximum outlay to be incurred.

22. Cost Accountancy Cost Accountancy has been defined as “the application of costing and cost accounting principles, methods and techniques to the science, art and practice of cost control and the ascertainment of profitability. It includes the presentation of information derived there from for the purpose of managerial decision making.”

23. Cost Unit It is a unit of product, service or time (or combination of these) in relation to which costs may be ascertained or expressed. Cost units are usually the units of physical measurement like number, weight, area, volume, length, time and value.

Industry or Product	Cost Unit
Automobile	Number
Cement	Tonne/per bag etc.
Chemicals	Litre, gallon, kilogram, tonne etc.
Power	Kilo-watt hour
Steel	Per Tonne
Transport	Passenger kilometer
Brick-making	1,000 bricks
Coal mining	Tonne/ton
Electricity	Kilowatt-hour (KWH)
Engineering	Contract, job
Oil	Barrel, tonne, litre
Hotel/Catering	Room/meal
Professional services	Chargeable hour, job, contract
Education	Course, enrolled student, successful student
Hospitals	Per Bed / Patient day
Gas	Cubic Meter
Education	Student year
Telecom	Number of Calls
BPO Service	Accounts handled
Professional Service	Chargeable Hours
Cables	Meter

24. CONCEPT OF MANAGEMENT ACCOUNTING:

Management Accounting is a new approach to accounting. The term Management Accounting is composed of two words — Management and Accounting. It refers to Accounting for the Management. Management Accounting is a modern tool to management. Management Accounting provides the techniques for interpretation of accounting data. Here, accounting should serve the needs of management. Management is concerned with decision-making. So, the role of management accounting is to facilitate the process of decision-making by the management.

25. Difference between Cost Accounting and Management Accounting

Cost Accounting:

1. It records the quantitative aspect only.
2. It records the cost of producing a product and providing a service
3. It only deals with cost Ascertainment.
4. It uses both past and present figures.
5. It follows certain principles and procedures for recording costs of different products.

Management Accounting:

1. It records both qualitative and quantitative aspect.
2. It Provides information to management for planning and co-ordination.
3. It is wider in scope as it includes F.A., budgeting, Tax, Planning.
4. It is focused with the projection of figures for future.
5. It develops in accordance to the need of modern business world.
6. It does not follow any specific rules and regulations

26. Role of Cost and Management Accounting system

- Provide relevant information to Management for Decision making
- Assist Management for Planning, Measurement, evaluation and controlling of business activities
- Help in allocation of cost to products and inventories for both external and internal users.

27. Functions of Cost and Management Accounting

1. Collection and accumulation of cost for each element of cost
2. Assigning costs to cost objects to ascertain cost
3. Cost and Management Accounting department sets budget and standards for a particular period or activity beforehand and these are compared with the assigned and ascertained cost
4. The main function of Cost and Management Accounting is provision of relevant information to the Management for Decision making

COST - SHEET

1. COST SHEET

The statement of cost according to element wise is known as cost sheet. In a cost sheet, besides total expenditure, cost per unit of output, and the various stages of cost (from prime cost to total cost) are shown systematically.

2. ADVANTAGES OF COST SHEET

- (a) It shows the total cost and cost per unit of the product produced during the given period.
- (b) It helps the producers to control over the cost of production.
- (c) It acts as a guide to the manufacturers and helps them in formulating a definite and profitable production policy.
- (d) It helps the management in fixing up the selling price of their products.
- (e) It helps the management in comparative study of the various elements of cost with the past result.
- (f) To compare the actual cost with standard cost & to take remedial action.
- (g) To show the classification of cost.

3. ITEMS EXCLUDED FROM COST SHEET

There are certain items, which are purely of financial nature and not included in a cost sheet or statement of cost. They are included only in financial accounts. These items are classified into the following categories.

(a) Purely financial incomes:

- 1. Rent receivable
- 2. Interest on investments
- 3. Brokerage, commission, or/and discount received
- 4. Dividends received
- 5. Interest on bank deposits
- 6. Capital profits i.e. profits on the sale of capital assets like plant and machinery
- 7. Transfer fees received (It is the fees charged by the company for transferring its shares. Public companies cannot charge transfer fee.)

(b) Purely financial charges:

- 1. Discount on bonds, debentures, etc.
- 2. Expenses on transfer of company's office
- 3. Capital losses
- 4. Damages payable
- 5. Cash discount
- 6. Penalties and fines
- 7. Interest on bank loan, debentures, mortgages, etc.

(c) Appropriation of profits:

- 1. Amounts written off-goodwill, preliminary expenses, underwriting commission, discount on debentures, etc.
- 2. Appropriation to sinking fund
- 3. Transfer to general/specific reserves
- 4. Dividends paid
- 5. Taxes on income and profits

(d) Abnormal expenses and losses:

- 1. Cost of abnormal idle time.
- 2. Cost of abnormal wastage of materials
- 3. Loss by fire, Loss by theft

4. FORMAT OF COST SHEET

Particulars	Amount (Rs.)
Direct Material consumed	
Direct Labour / Productive wages	
Direct Expenses:	
	Prime cost
Add: Factory or works overhead:	
	Gross Factory cost
Add: Opening WIP	
Less: Closing WIP	
	Works/Factory cost
Add: Offices & Administrative overhead (Related to Production Activity)	
Add: Quality control cost	
Add: Research and Development Cost	
Add: Packing Cost (Primary)	
Less: Credit for recoveries/scrap/By-Products	
	Cost of Production
Add: Opening finished stock	
	Cost of goods available for sale
Less: Closing finished stock	
	Cost of Production of goods sold
Add: Selling and Distribution overhead	
Add: Offices & Administrative overhead (General)	
Add: Packing Cost (Secondary)	
	Cost of sales/Total cost
Add: Profit	
	Sales values

5. OVERHEADS

The total of indirect Materials, Indirect labour and indirect expenses are termed as overheads. Overheads may be classified into three groups: -

- 1: - Factory Overheads.
- 2: - Office and administration overheads.
- 3: - Selling and Distribution overheads.

The total of office and administration overheads and selling and distribution overheads is known as general overheads.

FACTORY OVERHEADS

Factory overheads are those expenses, which are incurred in the factory during the course of production. They are also known as manufacturing, works or production overheads. Factory overheads include indirect materials indirect labour and indirect expenses.

(a) Indirect materials: -

- 1: - Consumable stores like oil and grease, lubricants, cotton waste, etc.
- 2: - Small tools.
- 3: - Factory printing and stationery.

(b) Indirect labour: -

- 1: - Salary of factory manager, foreman, supervisors, inspectors, etc.
- 2: - Salary of storekeeper.
- 3: - Wages of chowkidars, sweepers, etc.
- 4: - Overtime and leave wages.
- 5: - Bonus to workers.
- 6: - Contribution to provident fund of factory employees.
- 7: - Fees of factory directors
- 8: - Drawing office salaries (drawing office is the office where maps, designs and patterns are drawn).

(c) Indirect expenses: -

- 1: - Rent of factory building.
- 2: - Insurance of factory building and plant and machinery.
- 3: - Municipal taxes in respect of factory building.
- 4: - Experimental expenses.
- 5: - Power and fuel.
- 6: - Heating and lighting.
- 7: - Workers canteen and welfare expenses.
- 8: - Subscription to technical journals.
- 9: - Factory telephone charges.
- 10: Repairs and maintenance.
- 11: - Haulage (it is the payment for pulling up something with force)
- 12: - Heating and lighting
- 13: - Insurance of factory building and plant and machinery
- 14: - Power and fuel
- 15: - Power house expenses
- 16: - Rent of factory building
- 17: - Repairs and maintenance
- 18: - Subscription to technical journals.
- 19: - Worker's canteen and welfare expenses.

6. OFFICE AND ADMINISTRATION OVERHEADS

Office and administration overheads refer to the cost of formulating the policy, directing the organisation and controlling the operations of an undertaking. They pertain to the management and administration of the business enterprise. Office and Administration overheads consist of indirect materials, indirect labour and indirect expenses.

(a) Indirect materials:

- (i) Office printing and stationary
- (ii) Duster, bushes, etc.

(b) Indirect labour:

- (i) Audit fees
- (ii) Counting house salaries
- (iii) Fees of directors
- (iv) Salary of office manager, clerical staff, legal advisor, accountant, whole time directors, etc.
- (v) Salary of public relations officer

(c) Indirect expenses:

- (i) Bank charges
- (ii) Depreciation of office premises, furniture
- (iii) Hire charges of office machinery
- (iv) Legal charges
- (v) Office rent, rates and insurance
- (vi) Office heating and lighting
- (vii) Postage and telegram
- (viii) Public relations expenses
- (ix) Repairs and maintenance of office premises
- (x) Telephone expenses
- (xi) Trade subscriptions

7. SELLING AND DISTRIBUTION OVERHEADS

These overheads, sometimes referred to as marketing overheads, relate to the expenses incurred for marketing of products, securing orders, dispatching goods sold and making efforts to find and retain customers. These overheads also include indirect materials, indirect labour and indirect expenses.

(a) Indirect materials:

- (i) Catalogues
- (ii) Materials used in packing the product
- (iii) Printing and stationary
- (iv) Price lists

(b) Indirect labour:

- (i) Commission of salesmen
- (ii) Salary of sales manager, clerical staff, etc.
- (iii) Wages of packers, van drivers, etc.

(c) Indirect expenses:

- (i) Advertisement expenses
- (ii) After sales service expenses
- (iii) Bad debts
- (iv) Carriage outward
- (v) Depreciation of delivery van
- (vi) Loss of stocks in warehouse
- (vii) Loss of finished goods in transit.
- (viii) Periodical exhibition expenses
- (ix) Repairs and maintenance of delivery vans
- (x) Rent and insurance of godown
- (xi) Show room expenses.
- (xii) Subscription to trade journal , Warehouse charges
- (xiii) Samples and free gifts.
- (xiv) Trade discount
- (xv) Travelling expenses

8. Given below is a list of ten industries. Give the method of costing and the unit of cost against each industry.

1. Nursing Home
2. Road Transport
3. Steel
4. Coal
5. Bicycles
6. Bridge Construction
7. Interior Decoration
8. Advertising
9. Furniture
10. Sugar company having its own sugarcane fields.
11. Toy making
12. Cement
13. Radio
14. Bicycle
15. Ship building
16. Hospital

Industry	Method of costing	Unit of cost
1. Nursing Home	Operating	Per Bed per week or per day
2. Road transport	Operating	Per Tonne Kilometer or per mile
3. Steel	Process	Per Tonne
4. Coal	Single	Per unit
5. Bicycles	Multiple	Each unit
6. Bridge construction	Contract	Each contract
7. Interior Decoration	Job	Each Job
8. Advertising	Job	Each Job
9. Furniture	Multiple	Each unit
10. Sugar company having its own sugar-cane fields	Process	Per Quintal/Tonne
11. Toy making	Batch	Per batch
12. Cement	Unit	Per tonne or per bag
13. Radio	Multiple	Per Radio or per batch
14. Bicycle	Multiple	Per Bicycle
15. Ship building	Contract	Per Ship
16. Hospital	Operating	Per Bed per day or Per patient per day

Ques 1 The following extract of costing information relates to commodity 'A' for the half-year ending 31.12.15

	Rs.		Rs.
Purchase of Raw materials	1,20,000	Stock (31.12.2015)	
Factory Rent, Rate, Insurance	8,000	Raw Materials	22,240
Carriage Inwards	1,440	Finished products (2,000 tonnes)	32,000
Other Factory Overheads	40,000	Administration Overheads	4,000
Direct Wages	1,00,000	Work-in-progress (1.7.2015)	4,800
Stock (1.7.2015)		(31.12.2015)	20,000
Raw Materials	20,000	Sales Value	2,99,000
Finished Products (1,000 tonnes)	15,000		

Advertising, discounts allowed and selling costs are Re. 1 per tonne. 16,000 tonnes of commodity were produced during the period.

You are to ascertain the net profit for the period

[Ans: 45,000]

Ques 2 Prepare a cost sheet from the following data

	Rs.
Raw Materials Consumed	1,60,000
Direct Wages	80,000
Factory Overheads	20 % of Direct Wages
Office Overheads	10 % of Factory Cost
Selling Overheads	12,000
Unit Produced	4,000
Units Sold	3,600
Selling Price	Rs. 100 per unit

[Ans: Cost of sales Rs. 2,65,440; Profit Rs. 94,560]

Ques 3 Modern Manufacturing Company submits the following information on March 31.

	Rs.	Rs.
Sales for the year		2,75,000
Inventories at the beginning of the year:		
Finished goods	7,000	
Work-in-progress	4,000	
Purchase of materials for the year		1,10,000
Materials inventory		
At the beginning of the year.	3,000	
At the end of the year.	4,000	
Direct labour		65,000
Factory overhead was 60% of the direct labour cost		
Inventories at the end of the year-		
Work-in-progress	6,000	
Finished goods	8,000	
Other expenses for the year:		
Selling expenses		10% of sales
Administrative expenses		5% of sales
Required prepare statement of cost & profit.		

[Ans: Rs. 23,750]

Ques 4 The following data relate to the manufacture of standard product during the four-week ending on 31.3.2017

Raw materials consumed	₹ 20,000
Direct wages	₹ 12,000
Machine hours worked	950 (Hrs.)
Machine hours rate	₹ 2
Office overhead	15% on Works Cost.
Selling overhead	₹ 0.37 (per unit)
Units produced	20,000 units
Units sold @ Rs. 2.50	18,000 units

Prepare a statement from the above showing:

- The cost of production per unit.
- The profit for the period.

Ques 5 Prepare a cost sheet showing the cost per tonne of paper manufactured by J.J. Paper Mills in January 2018, under the different elements of cost:

Direct Materials:

Paper pulp	1,000 tonnes @ Rs. 50 per tonne
Other Miscellaneous Materials	200 tonnes @ Rs. 30 per tonne

Direct Labour:

220 skilled men for 25 days	@ Rs. 5 per day
110 unskilled men for 25 days	@ Rs. 4 per day

Direct Expenses:

Special equipments	Rs. 10,000
Special Dyes	Rs. 5,000

Works Overheads:

Variable	@ 100 per cent on direct wages.
Fixed	@ 50 per cent on direct wages.

Office and administrative overhead

@ 10 per cent on works cost.

Selling and distribution overhead

@ 20 per cent on total cost of production

Finished paper manufactured

1,000 tonnes

Credit on account of sale of waste

Rs. 2,000

The scrap value of the special equipment after utilisation in manufacture is nil.

[Ans: Rs. 218.13]

Ques 6 A factory produces a standard product. The following information is given to you from whom you are required to prepare "Cost Sheet" for the period ended on 31.12.16

Consumable materials:

	Rs.
Opening Stock	10,000
Purchases	85,000
Closing Stock	4,000
Direct wages	20,000
Other direct expenses	10,000
Factory overheads	100% of Direct Labour
Office overheads	10% of Works cost
Selling and distribution expenses	Rs. 2 per unit sold

Units of finished product:

In hand at the beginning of the period	1,000 (value Rs. 16,000)
Produced during the period	10,000
In hand at the end of the period	2,000

Also, find out the selling price per unit on the basis that profit margin is uniformly made to yield a profit of 20% of the selling price. There was no work-in-progress either at the beginning or at the end of the period.

[Ans: 39,520]

Ques 7 The following figures are collected from the books of an Iron Foundry after the close of the year:

Raw Materials:	Rs.
Opening stock at the beginning of the year	7,000
Purchases during the year	50,000
Closing stock at the end of the year	5,000
Direct wages	10,000
Works overhead	50% of direct wages
Store overhead on material	10% on the cost of materials.

- 10% of the castings were rejected being not up to specification and a sum of Rs. 400 was realised on sale as scrap.
- 10% of the finished castings were found to be defective in manufacture and were rectified by expenditure of additional works overhead charges to the extent of 20% on the proportionate direct wages.
- The total gross output of casting during the year was 1,000 tonnes.

Find out the manufacturing cost of the saleable castings per tonne.

[Ans: Rs. 71,980; Rs. 79.97 per tonne.]

Ques 8 In respect of a factory the following figures have been obtained for the year 2018:

	Rs.
Cost of materials	3,00,000
Direct wages	2,50,000
Factory overheads	1,50,000
Administrative overheads	1,68,000
Selling overheads	1,12,000
Distribution charges	70,000
Profit	2,10,000

A work order has been executed in 2006 and the following expenses have been incurred:

Materials	Rs. 4,000
Wages	Rs. 2,500

Assuming that in 2006 the rate of factory charges has increased by 20%, distribution charges have gone down by 10% and selling and administration charges have each gone up by 12 ½ %, at what price should the product be sold so as to earn the same rate of profit on the selling price as in 2005?

Hint: Factory overheads are based on direct wages, while all other overheads are based on factory cost.

[Ans: Profit 2,556.40, Selling Price: - 15338.40]

Ques 9 The cost of manufacturing 5,000 units of a commodity comprises-

Materials	20,000
Wages	25,000
Chargeable expenses	400
Fixed Overheads	16,000
Variable Overheads	4,000

For manufacturing every 1,000 extra units of the commodity the cost of production increases as follows:

- Materials proportionately.
- Wages 10% less than proportionately.
- Chargeable expenses: No extra cost.
- Fixed overheads: Rs. 200 extra
- Variable Overheads: 25% less than proportionately.

Calculate the estimated cost of producing 8,000 units of the commodity

[Ans: Rs. 93,300]

Ques 10 A factory can produce 60,000 units per annum at its optimum (100%) capacity. The estimated costs of production are as under:

Direct Material	Rs. 3 per unit
Direct Labour	Rs. 2 per unit
Indirect Expenses	
Fixed	Rs. 1,50,000 per annum
Variable	Rs. 5 per unit.

Semi-variable Rs. 50,000 per annum up to 50% capacity and extra expenses of Rs.10,000 for every 25% increase in capacity or part thereof.

The factory produces only against orders (and not for own stock.)

If the production programme of factory is as indicated below and the management desires to ensure a profit of Rs.1,00,000 for the year, **work out the average Selling Price at which each unit should be quoted.**

In 2016, the factory worked at 50% capacity for the first three months but it was expected that it would work at 80% capacity for the remaining 9 months.

Ignore selling, distribution and administration overheads.

[Ans: Average selling price per unit Rs. 17.24]

Ques 11 A factory has received an order for three different types of casting weighing respectively 18, 45 and 27 tonnes. 10% of the raw materials used are wasted in manufacturing and are sold as scrap for 20% of the cost price of raw materials.

The cost of raw materials is Rs. 250 per tonne; the wages for three types of castings are respectively Rs. 4,000 Rs. 10,500 and Rs. 5,500. The cost of the moulds for the three casting is Rs.400, Rs.500 and Rs.300 respectively. If the factory overhead charges are 40% of the wages in each case, **find the cost of production per tonne of each type of casting.**

[Ans: Rs. 10,900, Rs. 27,450, Rs. 15,350, & Rs. 605.56, Rs. 610, Rs. 568.52]

Ques 12 The books and records of the Anand Manufacturing Company present the following data for August:

Direct labour cost	Rs. 16,000 (160% of factory overhead)
Cost of goods sold	Rs. 56,000

Inventory accounts showed the following opening and closing balances:

	August 1	August 31
	Rs.	Rs.
Raw materials	8,000	8,600
Work-in-progress	8,000	12,000
Finished goods	14,000	18,000

Other data:

Selling expenses	3,400
General administration expenses	2,600
Sales for the month	75,000

You are required to prepare a statement showing the cost of goods manufacturing and sold and profit earned.

[Ans: Rs. 13,000]

[Hint: Materials consumed are a balance figure arrived at by working in the reverse order starting from cost of goods sold.]

Ques 13 A factory's normal capacity is 1,20,000 units per annum. The estimated costs of production are as under:

- (a) Direct material Rs. 3 per unit and each unit of raw material yields scrap, which is sold at the rate of 20 paise per unit.
- (b) Direct labour Rs. 2 per unit (subject to a minimum of Rs. 12,000 p.m.)
- (c) Indirect expenses - Fixed Rs. 1,60,000 per annum; Variable Rs. 2 per unit; Semi-variable Rs. 60,000 p.a. up to 50% capacity and an additional expenses of Rs. 20,000 for every 20% increase in capacity or any part thereof.

In 2018, the factory worked at 50% capacity for the first three months but it was expected that it would work @ 80% capacity for the remaining 9 month.

During the first three months, the selling price per unit was Rs.12. What should be the price in the remaining nine months to produce a total profit of Rs. 2,18,000?

[Ans: Rs. 17,000, Rs. 2,01,000]

Ques 14 The Books and Records of the Divya Manufacturing Company present the following data for August:

Direct Labour cost Rs.24,000 (160% of factory overhead)
 Cost of Goods Sold Rs.84,000 (Excluding Office & Administrative overheads)
 Inventory accounts showed the following opening and closing balances:

	August 1 (Rs.)	August 31 (Rs.)
Raw Materials	12,000	12,900
Work-in-Progress	12,000	18,000
Finished Goods	21,000	27,000
Other data:		
Selling Expenses		5,100
General Administration Expenses		3,900
Sales for the month		1,12,500

You are required to prepare a statement showing the cost of goods manufactured and profit earned.

[Ans: Profit Earned: Rs. 19,500]

Ques 15 The Metal Products Ltd. produces a sewing machine that sells for Rs. 300. An increase of 15% in cost of materials and of 10% in cost of labour is anticipated. If, the only figures available are those given below, what must be the selling price to give the same percentage of gross profit as before?

- (a) Materials costs have been 45% of cost of sales
- (b) Labour costs have been 40% of cost of sales
- (c) Overhead costs have been 15% of cost of sales.
- (d) The anticipated increased costs in relation to the present sales price would cause a 35% decrease in the amount of the present gross profit.

[Ans: Selling Price: Rs. 332.25]

Ques 16 Tiger Air-conditioning Company produces refrigerators and sells each for Rs. 2,000 during a certain accounting year. The direct material the direct labour and overhead costs are 60 per cent 20 per cent, 20 per cent, respectively of the cost of sales.

In a subsequent accounting year, the direct material cost has increased by 15 percent and direct labour cost by 17.5 per cent. Due to these increases in costs, there would be a 50 per cent decrease in the amount of profit if the same selling price were to be maintained.

Compute the new selling price to enable the Company to maintain the same percentage of profit as that earned during the preceding year.

[Ans: Old cost of Sales Rs. 1,600, New COS Rs. 1,800, New Selling Price Rs. 2,250]

Ques 17 Popeye Company is a metal and wood cutting manufacturer, selling products to the home construction market. Consider the following data for the month of October, 2005

	(Rs.)
Sandpaper	5,000
Material-handling costs	1,75,000
Lubricants and coolants	12,500
Miscellaneous indirect manufacturing labour	1,00,000
Direct manufacturing labour	7,50,000
Direct materials, October 1, 2005	1,00,000
Direct materials, October 31, 2005	1,25,000
Finished goods, October 1, 2005	2,50,000
Finished goods, October 31, 2005	3,75,000
Work-in-process, October 1, 2005	25,000
Work-in-process, October 31, 2005	35,000
Plant-leasing costs	1,35,000
Depreciation-plant equipment	90,000
Property taxes on plant equipment	10,000
Fire insurance on plant equipment	7,500
Direct materials purchased	11,50,000
Sales revenues	34,00,000
Marketing promotions	1,50,000
Marketing salaries	2,50,000
Distribution costs	1,75,000
Customer-service costs	2,50,000

Required:

- Prepare an Income statement with a separate supporting schedule of cost of goods manufactured.
- For all manufacturing items, indicate by V or F whether each is basically a variable cost or a fixed cost

Solution:

(i) Schedule for Cost of Goods Manufactured for the month of October, 2005

Direct material Consumed (V)		11,25,000
Direct labour (V)		<u>7,50,000</u>
	Prime Cost	18,75,000
Add: Manufacturing overhead		
Sand paper (V)	5,000	
Material handling (V)	1,75,000	
Lubricants and coolants (V)	12,500	
Miscellaneous Indirect labour (V)	1,00,000	
Plant leasing cost (F)	1,35,000	
Depreciation of plant and equipment (F)	90,000	
Property tax on plant and equipment (F)	10,000	
Fire insurance on plant and equipment (F)	7,500	
	<u>5,35,000</u>	
Add: Opening work-in-progress	25,000	
Less: Closing work-in-progress	<u>(35,000)</u>	<u>5,25,000</u>
Cost of Goods Manufactured		<u>24,00,000</u>

(ii) Income Statement for the month ending October 31, 2005

Cost of goods manufactured		24,00,000
Add: Opening stock of finished goods		<u>2,50,000</u>
		26,50,000
Less: Closing stock of finished goods		<u>(3,75,000)</u>
Cost of Production of Goods Sold		22,75,000
Add : Marketing and Distribution overheads		
Marketing promotions	1,50,000	
Marketing salaries	2,50,000	
Distribution costs	1,75,000	
Customer service costs	<u>2,50,000</u>	<u>8,25,000</u>
Total Cost		31,00,000
Operating Income		<u>3,00,000</u>
Sales Revenue		<u>34,00,000</u>

Ques 18 A fire occurred in the factory premises on October 31, 2003. The accounting records have been destroyed. Certain accounting records were kept in another building. They reveal the following for the period September 1, 2003 to October 31, 2003:

(i)	Direct materials purchased	Rs.	2,50,000
(ii)	Work in process inventory, 1.9.2003	Rs.	40,000
(iii)	Direct materials inventory, 1.9.2003	Rs.	20,000
(iv)	Finished goods inventory, 1.9.2003	Rs.	37,750
(v)	Indirect manufacturing cost	40% of conversion cost	
(vi)	Sales revenues	Rs.	7,50,000
(vii)	Direct manufacturing labour	Rs.	2,22,250
(viii)	Prime cost	Rs.	3,97,750
(ix)	Gross margin percentage based on revenues		30%
(x)	Cost of Goods available for sale	Rs.	5,55,775

The loss is fully covered by insurance. The insurance company wants to know the historical cost of the inventories as a basis for negotiating a settlement, although the settlement is actually to be based on replacement cost, not historical cost.

Required:

- Finished goods inventory, 31.10.2003
- Work-in-process inventory, 31.10.2003
- Direct materials inventory, 31.10.2003.

Ans. (a) Rs. 30,775; (b) Rs. 67,892; (c) Rs. 94,500

Ques 19 On 30.6.2002, a flood damaged the warehouse of a company completely destroying the work-in-progress inventory. There was no damage to raw material and finished goods inventory.

A physical verification taken after the flood reveals the following:

Raw material inventory	Rs.	62,000
Work-in-progress		Nil
Finished goods inventory	Rs.	1,19,000

The inventory on **January 1, 2002** consisted the following:

1. Raw Material	Rs.	30,000
2. Work-in-progress inventory	Rs.	1,00,000
3. Finished goods inventory	Rs.	1,40,000

A review of the books disclosed that the gross profit margin historically approximated 25% of sales. The Sales from January to June, 2002

Raw Material purchased from January to June, 2002	Rs.	1,15,000
Direct Labour cost from January to June, 2002	Rs.	80,000
Manufacturing overheads		50% of Labour cost.

Compute the stock of Work-in-progress as on June 30, 2002.

Ans. Closing WIP Rs. 69,000

Ques 20 The following data pertains to a company for the month of March 2003:

Direct Material used	Rs.	847
Opening Stock of Finished goods		?
Closing Stock of Finished goods	Rs.	94
Direct Labour cost	Rs.	389
Manufacturing Overheads		?
Cost of goods produced	Rs.	1,878
Cost of goods sold		?
Cost of goods available for sale	Rs.	1,949

Find out the missing items.

Ans. Manufacturing overheads Rs. 642; Opening stock of FG Rs.71; COGS Rs. 1,855]

Ques 21 The following is the summarized Trading and Profit and Loss A/c of K. Waterproof Manufactures Ltd. for the year ending 31st March, 2009 in which year 800 waterproofs were sold by the said company :

Trading and Profit and Loss Account

	Rs.		Rs.
To Cost of Materials	32,000	By Sales	1,60,000
To Direct Wages	48,000		
To Manufacturing overheads	20,000		
To Gross Profit c/d	60,000		
	1,60,000		1,60,000
To Office Salaries	24,000	By Gross Profit b/d	60,000
To Rent and Taxes	4,000		
To Selling Expenses	8,000		
To General Expenses	12,000		
To General Reserve	2,000		
To Net Profit	10,000		
	60,000		60,000

Following estimates were made by the costing department of the company for the year ending 31st March, 2010 :

- (a) The output and the sales will be of 1,000 waterproofs.
- (b) The price of materials will rise by 25% on the previous year's level.
- (c) Wages during the year will rise by 12½ %.
- (d) Manufacturing overheads will rise in proportion to the increase in prime cost
- (e) Selling expenses per unit will remain unchanged.
- (f) Other expenses will remain unaffected by the rise in output.

From the above information prepare a cost statement showing the price at which the waterproofs would be marketed so as to show a profit of 10% on the selling price.

Ques 22 PREPARE A COST SHEET FROM THE FOLLOWING INFORMATION:

- (i) DIRECT MATERIALS $\frac{1}{3}$ OF COST OF SALES.
- (ii) DIRECT LABOUR $\frac{1}{4}$ OF COST OF SALES.
- (iii) DIRECT EXPENSES $\frac{1}{12}$ OF COST OF SALES.
- (iv) WORKS OVERHEADS 20% OF PRIME COST.
- (v) OFFICE OVERHEADS, SELLING EXPENSES AND DISTRIBUTION EXPENSES ARE IN THE RATIO OF $\frac{3}{9} : \frac{4}{9} : \frac{2}{9}$ RESPECTIVELY.
- (vi) PROFIT IS $\frac{1}{10}$ OF SALES.
- (vii) SALES LESS DIRECT COST IS Rs.8,00,000.

Ans. Sales = Rs.20,00,000

Ques 23 Prepare an estimated cost sheet based on the following data and consider the price that you would quote for an order which requires the following :

Raw Material	--	10,000 kgs. @ 6.95 per kg.
Direct Labour	--	15,000 hours at Rs. 2.00 per hour 25% overtime at double rate
Factory Overheads	—	recovered at 80% of direct wages
Selling Overheads	—	recovered at 60% of direct wages.
Fixed Capital Investment	—	Rs. 50,000.
Return on Capital employed	—	25%.
Investment in working capital	—	20% of the Sales Value.

Ans. Sales = Rs.2,00,000

Ques 24 SK Engineering Company Limited manufactures two types of auto bearing-type “XD” and type “XE” .The Company’s records show the following particulars for those bearings for the month of May, 2009.

	(₹)
Direct Materials	38,10,000
Direct labour	20,10,000
Production Overheads	6,03,000
Office Overheads	6,42,300

There was no work-in-progress at the beginning or at the end of the month. It was ascertained that:

1. Direct Materials Cost per bearing for type “XD” was 160% of those for type “XE”.
2. Direct Labour cost per bearing for type “XE” was 40% of those for type “XD”.
3. Production overheads were absorbed on the basis of Direct Labour Cost.
4. Office overheads were absorbed on the basis of Factory Cost.
5. Selling and Distribution overheads were ₹ 2 per bearing sold for each type.
6. Stock of finished bearing on 1st May, 2009 was 15,000 bearing @ ₹ 15 of type “XD” and 20,000 bearings @ ₹ 8 of Type “XE”
7. Production during the month of May, 2009 was 2,70,000 bearing if type “XD” and 3,30,000 bearings of type “XE” and out of May’s output 25,000 bearings of type “XD” and 40,000 bearings of type “XE” would be remains in stock on 31st May, 2009 which valued at cost of production.

You are required to:

- (i) Prepare a statement showing Cost of production each type of bearings.
- (ii) Prepare a statement showing the Selling price at which the bearings would be marketed, if the company desires @ 20 percent profit on selling Price.

Answer: (COGS- ₹ 41,32,750, ₹25,84,400) (15.95, 8.36, 22.37, 12.92)

Ques 25 Arun Limited has capacity to produce 1,00,000 units of a product every month. Its works cost at varying levels of Production is as under-

Level (%)	10	20	30	40	50	60	70	80	90	100
Works Cost per unit (₹)	400	390	380	370	360	350	340	330	320	310

It Fixed Administration Expenses amount to ₹ 1,50,000 and Fixed Marketing Expenses amount to ₹ 2,50,000 per month respectively. The variable Distribution Cost amounts to ₹ 30 per unit. It can market 100% of its output at ₹ 500 per unit provided it incurs the following further expenditure.

- (a) It gives gift items costing ₹ 30 per unit of Sale.
- (b) It has lucky draws every month giving 1st prize of ₹ 50,000, 2nd Prize of ₹ 25,000, 3rd Price of ₹10,000 and three consolation prizes of ₹ 5,000 each to customers buying the product.
- (c) It spends ₹1,00,000 on refreshments served every month to its customers and
- (d) It sponsors a Television Program every week at a cost of ₹ 20,00,000 per month.

It can market 30% of its output at ₹ 550 per unit without incurring any of the expenses referred to in (a) to (d) above. Prepare cost sheet at 30% and 100% capacity level.

Solution:

Cost Sheet

Output Quantity	30% = 30,000 units per month		100% = 1,00,000 units per month	
	Per unit (₹)	Total (₹)	Per unit (₹)	Total (₹)
Works Cost	380.00	1,14,00,000	310.00	3,10,00,000
Add: Fixed Administration Expenses	5.00	1,50,000	1.50	1,50,000
Cost of production	385.00	1,15,50,000	311.50	3,11,50,000
Add: Fixed Marketing Expenses	8.33	2,50,000	2.50	2,50,000
Add: Variable Distribution Cost	30.00	9,00,000	30.00	30,00,000
Add: Special Promotion Cost				
Gift items Cost			30.00	30,00,000
Customers Prizes			1.00	1,00,000
Refreshments			1.00	1,00,000
TV Program sponsorship cost			20.00	20,00,000
Cost of Sales	423.33	1,27,00,000	396.00	3,96,00,000
Add: Profit (B/F)	126.67	38,00,000	104.00	1,04,00,000
Sales Revenue	550.00	1,65,00,000	500.00	5,00,00,000

Conclusion: Profit increases by (₹ 104 Lakhs - ₹ 38 Lakh)= ₹ 66 Lakhs, if the Company uses its full capacity to produce 1,00,000 units per month. Hence operating at 100% output level is advisable for the company.

RECONCILIATION

Q.1. “Reconciliation of cost and financial accounts in the modern computer age is redundant” – Comment.

Ans.: In the modern computer age the use of computer knowledge and accounting software has helped the field of Financial and Cost Accounting in a big way. In fact, the computers work at a very high speed and can process voluminous data for generating desired output in no time. Output produced is precise and accurate. Computers can work for hours without any fatigue. They can bring out different Financial Accounting and Cost Accounting statements and reports accurately in a presentable form. Financial accounts and Cost accounts show their results accurately and precisely, when maintained on a computer system, but the profit shown by one set of books may not agree with that of the other set.

The main reasons for the disagreement of the profit figures shown by the two set of books is the absence of certain items which appear in financial books only and are not recorded in cost accounting books. Similarly, there may be some items which appear in cost accounts but do not find a place in the financial books. Some examples which affect it are as below:

- a) Loss/profit on sale of fixed assets.
- b) Expenses on stamp duty, discount and other expenses relating to the issue and transfer of shares and debentures.
- c) Fee received on issue and transfer of shares etc.
- d) Interest on bank loan, mortgage, etc.
- e) Interest received on bank deposits and other investments.
- f) Fines and penalties.
- g) Dividend received on investment in shares.
- h) Rental income, etc.
- i) Under or over recovered expenses.
- j) Difference due to varying basis of valuation of stock or in the matter of charging depreciation.
- k) Amounts written off, goodwill, preliminary expenses, underwriting commission, debentures discounts, etc.

Under the situation of differential profit figure shown by financial and cost accounts, it is necessary to reconcile the results (profit/loss) shown. Such a reconciliation proves arithmetical accuracy of data, explains reasons for the difference in the two sets of books and affords reliability to them. Hence, the reconciliation of cost and financial accounts is essential and not redundant even in the modern age of computer.

Q.2. What are the reasons for disagreement of profits as per cost accounts and financial accounts? Discuss.

Or

Why is it necessary to reconcile the Profits between Cost Accounts and Financial Accounts?

Ans.: In a non-integrated accounting system separate sets of books are kept for financial accounting and cost accounting. Since financial accounts and cost accounts are maintained independent of each other, profit figure shown by one set of accounts may not agree with the profit figures shown by another set of accounts. This situation necessitates that reconciliation between the results disclosed by two sets of accounts should be attempted. In integrated system of accounting, financial accounts and cost accounts are not kept separately and consequently this problem of reconciliation does not arise.

The reasons for difference in profit shown by financial accounts and profit shown by cost accounts are summarized below:

1. There are certain items which appear in financial books only and are not recorded in cost accounting books such as :

a) Examples of charges which appear only in financial books are :

1. Loss on sale of fixed assets and investments.
2. Interest on bank loan, mortgage etc.
3. Expenses relating to the issue and transfer of shares and debentures like stamps duty expenses; discount on shares and debentures, etc.
4. Penalties and fines.
5. Amounts written off, goodwill, preliminary expenses, underwriting commission, debentures discounts, etc.
6. Income Tax.

b) Examples of incomes which are recorded in the financial books only are :

1. Profit on the sale of investments and fixed assets.
2. Interest received on investments and bank deposits.
3. Dividend received on investment in shares.
4. Fees received on issue and transfer of shares etc.
5. Rental income

c) Items of appropriation of profit: i) dividends; ii) Transfer to general reserve or any other fund of accumulated profit.

The items included in (c) will not affect net profit shown as per financial books. If, however, financial profit after appropriation is taken, adjustments in respect of appropriation items will have to be carried for reconciling financial profit with profit shown by cost accounts.

2. In cost accounts, overheads are generally absorbed on the basis of a predetermined overhead rate, whereas in financial accounts actual expenditure on overheads is recorded, this will also cause a difference between the figures of profit shown under financial and cost accounts.
3. Different methods of valuation of closing stock adopted in cost and financial accounts will also cause a difference in the results shown by the two sets of books. In financial accounts the method generally followed is cost or market price, whichever is less whereas in cost accounts different methods of pricing of material issues such as LIFO, FIFO, average etc. are used.
4. Use of different methods of depreciation is also responsible for the variation of profit shown by two sets of books. In financial accounts, depreciation may be charged according or written down value method where in cost accounts it may be charged on the basis of the life of the machine.
5. Abnormal items not included in cost accounts also cause a difference in profit. If such items of expenses are included, cost ascertained will not be correct.

Q.3 List the Financial expenses which are not included in cost.

Ans:- Financial expenses which are not included in cost accounting are as follows:

- Interest on debentures and deposit
- Gratuity, Pension
- Bonus of Employee
- Income Tax, Preliminary Expenses
- Discount on issue of Share
- Underwriting Commissions.

Q. 4 When is the reconciliation statement of Cost and Financial accounts not required?

Ans: Circumstances where reconciliation statement can be avoided - When the Cost and Financial Accounts are integrated - there is no need to have a separate reconciliation statement between the two sets of accounts. Integration means that the same set of accounts fulfill the requirement of both i.e., Cost and Financial Accounts.

Ques. 1. The net profit as per financial accounts of a company amounted to Rs. 18,550, while the profits as per cost accounts were Rs. 28,600. On reconciling the figure, the following differences were noted:

	Rs.
(a) Director's fees not charged in cost accounts	1,050
(b) A provision for bad and doubtful debts	970
(c) Bank interest credited	90
(d) Provision for income tax	8,300
(e) Over-recovery of overheads in cost accounts	180

Prepare Reconciliation Statement. Also prepare Memorandum Reconciliation Account.

[Ans. 18,550]

Ques. 2. In the reconciliation between Cost and Financial Accounts, one of the areas of differences is for different methods of stock valuation. State, with reasons, in each of the following circumstances whether costing profit will be higher or lower than the Financial Profit.

Items of Stock	Cost	Financial
Raw Materials (Opening)	50,000	60,000
Work in progress (Closing)	60,000	50,000
Finished Stock (Closing)	50,000	60,000
Finished Stock (Opening)	60,000	50,000

Ques. 3. The net profits of SDR Limited according to financial accounts was Rs.84,377 while profit shown by cost accounts was Rs. 1,06,200 for the same year. Prepare Reconciliation Statement to reconcile both the profits from the following information.

1. Depreciation charged in financial accounts Rs. 5,600, while recovered in cost accounts Rs. 6,250.
2. Works overheads under-absorbed in cost accounts Rs.1,560 while office overheads over-recorded in cost accounts Rs. 850.
3. Interest on loan (credit) not included in cost accounts Rs. 4,000
4. Loss due to obsolescence charged in financial accounts Rs. 2,850
5. Bank interest and dividend received Rs.375.
6. Income tax paid Rs. 20,150
7. Loss due to depreciation in inventories charged in financial accounts Rs. 3,375.
8. Stores adjustment (credited in financial accounts) Rs. 237.

[Ans. 84,377]

Ques. 4 Following is the Trading and Profit and Loss Account of Chhavi Electronics for the year ended 31st March 1998

Particulars	(Rs.)	Particulars	(Rs.)
To Materials Consumed	12,000	By Sale (350 Units)	70,000
To Direct Wages	4,000	By Finished Stock (50 Units)	3,500
To Works Expenses	12,000	By Interest received	1,500
To Administrative Expenses	12,000		
To Goodwill written off	4,000		
To Discount on debentures w/o	3,000		
To Net Profit	28,000		
	<u>75,000</u>		<u>75,000</u>

The Company's cost records show that:

- (1) Works overhead have been recovered at 100% on prime cost.
- (2) Administrative overheads have been recovered at 25% of factory cost.

Prepare: (1) A statement of cost indicating net profit; and
(2) A statement reconciling the profit as disclosed by cost accounts and that shown in financial accounts.

Ans: profit as per cost a/c Rs. 35,000

Ques. 5. From the following particulars, prepare a Reconciliation Statement

	Cost Accounts	Financial Accounts
Profit	--	2,03,000
Factory Expenses	1,21,300	1,05,000
Closing Stock	42,800	40,800
Depreciation	8,000	11,000
Opening Stock	32,600	33,000
Office Expenses	50,000	53,400
Selling Expenses	75,000	71,000

Besides the above information, you are informed that land-costing Rs. 2,00,000 was sold during the year for Rs. 2,23,400. There was Rs. 5,000 as interest received and Rs. 2,400 as discount received.

[Ans. 1,60,700]

Ques.6. Prepare Cost Sheet from the following data provided by M/s D.K. Limited for the year ending 31st March 1999:

Raw materials	Rs. 15,000
Direct labour	Rs. 9,000
Machine hours	900 Machine hrs.
Machine Hour Rate	Rs. 5
Production	17,100 units
Units sold	16,000 units
Selling price per unit	Rs. 4
Selling overhead per unit	50 paise
Office overheads	20% of works cost

Also prepare a Reconciliation statement, if factory, office and selling expenses are Rs. 5,000, Rs. 5,000 and Rs. 10,000 respectively, while closing stock is valued at Rs. 2,500 in financial books.

[Ans. Cost Rs. 24,000 and Financial Rs. 22,500]

Ques. 7. The following is the Trading and Profit and Loss Account of Chhavi Industries Limited for the year ended 31st March 1999.

Particulars	Rs.	Particulars	Rs.
To Materials	45,000	By Sales (4,800 units)	96,000
To Wages	33,000	By Closing stock (1,200 units)	20,400
To Works Expenses	24,000		
To Administrative Expenses	6,000		
To Net Profit	8,400		
	1,16,400		1,16,400

The Company's cost records show that:

- Works overheads have been absorbed at Rs. 3 per unit produced;
- Administrative overheads have been absorbed at Rs. 1.50 paise per unit produced.
- Assuming there is nothing by way of work-in-progress either at the beginning or at the end there is no opening stock of finished goods.

Prepare:

1. A statement of cost indicating the net profit:
2. A statement reconciling the profit as per disclosed by cost A/c and that shown in financial A/c.

Ans: Profit as per Cost a/c Rs.12,000

Ques. 8. The following figures have been extracted from the financial accounts of Ekta Limited for the year ending on 31.3. 1999.

	Rs.
Direct material consumption	50,000
Productive wages	30,000
Factory overheads	16,000
Administrative overheads	7,000
Selling and distribution overheads	9,600
Bad debts written off	800
Preliminary expenses written off	400
Legal charges	100
Dividend received	1,000
Interest received on Bank deposits	200
Sales (12,000 units)	1,20,000
Closing Stock:	
Finished goods (400 units)	3,200
Work-in-progress	2,400

The Cost Accounts for the same period reveal that direct material consumption was Rs. 56,000. Factory overhead is recovered at 20% on prime cost. Administration overhead is recovered at 60 paise per unit of production. Selling and distribution overheads at 80 paise per unit sold. Prepare Profit and Loss Account both as per financial records and as per cost records. Also, reconcile the profits as per the two records.

Ans: Profit as per cost a/c Rs. 5,652, Profit as per financial a/c Rs.12,900

Ques. 9. The following figures were available in respect of Manish Engineering Company for the year ended 31st March 1999

	Financial A/c (Rs.)	Cost A/c (Rs.)
Opening stock:		
Raw materials	6,000	5,000
Work-in-progress	7,000	6,500
Finished stock	5,000	4,500
Closing stock:		
Raw materials	4,000	4,300
Work-in-progress	3,000	3,700
Finished stock	5,900	6,200
Purchases	40,000	
Direct wages	20,000	
Factory expenses	20,000	24,000 (Absorbed)
Sales	1,10,000	
Administration expenses	3,000	2,300 (Absorbed)
Selling expenses	4,000	4,500 (Absorbed)
Financial expenses	1,000	
Interest and Dividend received	1,600	

Compute the profit in Financial Accounts as well as in Cost Accounts and prepare reconciliation statement showing clearly the reasons for the variations of the two profit figures.

Ans. Profit as per financial A/c 18,500; Profit as per cost A/c 17,400

Ques 10: A manufacturing company disclosed a net loss of Rs. 3,47,000 as per their cost A/cs for the year ended 31.3.2003. The financial A/cs however disclosed a net loss of Rs. 5,10,000 for the same period. The following information was revealed as a result of scrutiny of the figures of both the sets of A/cs:

(i) Factory Overheads under-absorbed	40,000
(ii) Administration Overheads over-absorbed	60,000
(iii) Depreciation charged in Financial Accounts	3,25,000
(iv) Depreciation charged in Cost Accounts	2,75,000
(v) Interest on investments not included in Cost Accounts	96,000
(vi) Income-tax provided	54,000
(vii) Interest on loan funds in Financial Accounts	2,45,000
(viii) Transfer fees (credit in financial books)	24,000
(ix) Stores adjustment (credit in financial books)	14,000
(x) Dividend received	32,000

Prepare a Memorandum Reconciliation Account.

Ques. 11. From the following information given below, prepare

- (a) A statement showing costing profit or loss; and
 (b) Another statement reconciling the costing profits with those shown by financial accounts:

TRADING AND PROFIT & LOSS ACCOUNT

	Rs.		Rs.
Materials consumed	1,50,000	Sales (1,50,000 units)	3,00,000
Direct wages	75,000		
Indirect Factory Expenses	45,000		
Office Expenses	13,500		
S&D Expenses	9,000		
Net Profit	7,500		
	3,00,000		3,00,000

The normal output of the factory is 2,25,000 units. Factory expenses of a fixed nature are Rs. 27,000. Office expenses are for all practical purposes constant. Selling and Distribution expenses are constant to the extent of Rs. 3,000 and the balance varies with sales.

Ans. Profit as per cost A/c Rs. 22,000

Ques.12. Modern Company Limited furnishes the summary of Trading and Profit & Loss Account for the year ended 31st December 1994:

	Rs.		Rs.
To Raw Materials	1,39,600	By Sales (12,000 units)	4,80,000
To Direct Wages	76,200	By Finished Stock (200 units)	8,000
To Production Overheads	42,600	By Work-in-progress.	
To Administrative Overheads	39,100	Materials	28,200
To Selling and Distribution OH.	42,700	Wages	11,796
To Preliminary Expenses w/o	2,200	Production OH	7,999
To Goodwill written off	2,501	By Interest on Securities	
To Dividends (Net)	3,000	(Gross)	6,000
To Income-tax	4,100		
To Net profit	1,89,994		
	5,41,995		5,41,995

The company manufactures a standard unit; scrutiny of cost records for the same period shows that: Factory overheads have been allocated to the production at 20% on Prime Cost. Administration overheads have been charged at Rs. 3 per unit on units produced. Selling and Distribution expenses have been charged at Rs. 4 per unit on units sold. You are required to prepare a Statement of Cost to work out Profit as per Cost Accounts and to reconcile the same with that shown in the financial accounts.

Ans. Profit as per cost A/c Rs. 1,88,493

Ques 13: The net profit of the Raman Manufacturing Co. Ltd. appeared at Rs. 64,377 as per the financial records for the year ended 31st March 1993. The Cost Books, however, showed a net profit of Rs. 86,200 for the same period. A scrutiny of the figures from both the sets of accounts revealed the following facts:

• Works Overheads under-recovered in Costs	1,560
• Administrative overheads recovered excess in Costs	850
• Depreciation charged in Financial Accounts	5,600
• Depreciation recovered in Costs	6,250
• Interest on investments not included in cost	4,000
• Loss due to obsolescence charged in Financial	2,850
• Income-tax provide in Financial Accounts	20,150
• Bank interest and transfer fee in Financial Books	375
• Stores Adjustment credited in Financial Books	237
• Loss due to depreciation in stock charged in Financial Account	3,375

Prepare a statement showing the reconciliation of Profit between Cost Accounts and Financial Account.

Ques 14: The following information is available from the financial books of a company having a normal production capacity of 60,000 units for the year ended 31st March 2005:

- Sales Rs. 10,00,000 (50,000 units)
- There was no opening and closing stock of finished units.
- Direct material and direct wages cost were Rs. 5,00,000 and Rs. 2,50,000 respectively.
- Actual factory expenses were Rs. 1,50,000 of which 60% are fixed.
- Actual administrative expenses were Rs. 45,000, which are completely fixed.
- Actual selling and distribution expenses were Rs. 30,000 of which 40% are fixed.
- Interest and dividends received Rs. 15,000

You are required to:

- Find out profit as per financial books for the year ended 31.3.2005.
- Prepare the cost sheet and ascertain the profit as per cost accounts for the year ended 31.3.05 assuming that the indirect expenses are absorbed on the basis of normal production capacity.
- Prepare a statement reconciling profits shown by financial and cost books.

Solution:

Profit & Loss Account
(For the year ended 31st March, 2005)

	Rs.		Rs
To Direct Material	5,00,000	By Sales 50,000 units	10,00,000
To Direct Wages	2,50,000		
To Actual factory expenses	1,50,000	By Interest and	
To Actual administrative expenses	45,000	Dividends	15,000
To Actual selling and distribution expenses	30,000		
To Profit	40,000		
	10,15,000		10,15,000

Cost Sheet
(for the year ended 31st March, 2005)

	Rs.
Direct Material	5,00,000
Direct Wages	2,50,000
Prime Cost	7,50,000
<i>Factory expenses:</i>	
Variable : Rs. 60,000	
Fixed : Rs.90,000 $\times \frac{5}{6}$	1,35,000
Works Cost:	8,85,000
Administrative expenses : Rs.45,000 $\times \frac{5}{6}$	37,500
Cost of production	9,22,500
Selling & distribution expenses	
Variable : Rs. 18,000	
Fixed : Rs.12,000 $\times \frac{5}{6}$	28,000
Cost of Sales	9,50,500
Profit	49,500
Sales revenue	10,00,000

Statement of Reconciliation
(Reconciling profit shown by Financial and Cost Accounts)

	Rs.	Rs.
Profit as per Cost Accounts	49,500	—
Add: Income from interest and dividends	15,000	
Less: Factory expenses undercharged in Cost Accounts		15,000
Administrative expenses undercharged in Cost A/c		7,500
Selling expenses under-charged in Cost Accounts		2,000
Profit is per Financial Accounts		40,000
	64,500	64,500

Ques 15: A firm of Spoons Equipments commenced business on 1-4-93 for manufacturing 2 varieties of bat, 'Senior' and 'Sub-junior'. The following information has been extracted from the accounts records for the half-yearly period ended 30-9-93:

(i)	Average material cost per piece of 'Senior' bat	80
(ii)	Average material cost per piece of 'Junior' bat	60
(iii)	Average cost of labour per piece of 'Senior' bat	140
(iv)	Average cost of labour per piece of 'Junior' bat	110
(v)	<u>Finished goods sold:</u>	
	Senior	300 pieces
	Sub-Junior	700 pieces
(vi)	<u>Sale price: -</u>	
	Per piece of 'Senior' bat	500
	Per piece of 'Junior' bat.	390
(vii)	Work expenses incurred during the period	1,20,000
(viii)	Office expenses	68,000

You are required to prepare a statement showing:

1. The profit per each brand piece of bat: charge labour and material at actual average cost, works on cost at 100% on labour cost and office cost at 25% of works cost.
2. Financial profit for the half-year ending 30-9-93.
3. Reconciliation between profit as shown by cost accounts and financial accounts.

Profit as per cost A/c Rs. 43,000; Profit as per Financial A/c Rs. 50,000.

Statement of cost and profit (Cost books)

Particulars	Senior bat 300 units		Junior bat 700 units		Total cost
	Per unit cost	Total cost	Per unit cost	Total cost	
Material cost	80	24,000	60	42,000	66,000
Labour cost	140	42,000	110	77,000	1,19,000
Prime cost	220	66,000	170	1,19,000	1,85,000
Add : Factory overhead (100% of labour cost)	140	42,000	110	77,000	1,19,000
Work cost	360	1,08,000	280	1,96,000	3,04,000
Add : Office overhead (25% of works cost)	90	27,000	70	49,000	76,000
Total cost	450	1,35,000	350	2,45,000	3,80,000
Sales	500	1,50,000	390	2,73,000	4,23,000
Profit	50	15,000	40	28,000	43,000

Profit and loss account (Financial books) for half-year ending 30-9.2003

Particulars	Rs.	Particulars	Rs.
To Materials		By Sales	
Senior bat 24,000		Senior ,50,000	
Junior bat <u>42,000</u>	66,000	Junior <u>2,73,000</u>	4,23,000
To Wages			
Senior bat 42,000			
Junior bat <u>72,000</u>	1,19,000		
To Works expenses	1,20,000		
To Office expenses	68,000		
To Net Profit	50,000		
	<u>4,23,000</u>		<u>4,23,000</u>

Reconciliation Statement

	Rs.
Profit as per Cost Books	43,000
Add : Office overhead expenses over charged in cost books	8,000
Less : Works overheads under-charged in cost books	1,000
profit as per Financial Accounts	50,000

Ques 16: From the following figures prepare a statement reconciling the profits as per the cost accounts and the profits as per the financial accounts.

- Net profit as per the financial accounts 1,28,755
- Net profit as per the cost accounts 1,72,400
- Works overheads under recovered 3,120
- Administrative overheads over recovered 1,700
- Depreciation charged in the financial accounts 11,200
- Depreciation charged in the cost accounts 12,500
- Interest received but not included in the cost accounts 8,000
- Loss due to obsolescence charged in the financial accounts 5,700
- Income tax provided in the financial accounts 40,300
- Stores adjustment credited in the financial accounts 475
- Depreciation of stock charged in the financial accounts 6,750
- Bank interest credited in the financial accounts 750

Ques 17: The net profit of A Co. Ltd. Appeared at Rs. 60,652 as per financial records for the year ending 31st March 1999. The cost books, however, showed a net profit of Rs. 86,200 for the same period. A scrutiny of the figure from both the sets of accounts revealed the following facts:

• Works overhead under recovered in cost accounts	Rs. 1,560
• Administrative overheads over-recovered in cost accounts	850
• Depreciation charged in financial accounts	5,600
• Depreciation recovered in cost accounts	6,250
• Interest on investment not included in cost accounts'	4,000
• Loss due to obsolescence charged in financial accounts	2,850
• Income tax provided in financial accounts	20,150
• Bank interest allowed in financial books	375
• Stores adjustment (credit in financial books)	237
• Value of opening stock in costs accounts	24,800
• Value of opening stock in financial accounts	26,300
• Value of closing stock in cost accounts	25,000
• Value of closing stock in financial accounts	23,000
• Interest charged in cost accounts	2,000
• Goodwill written off	5,000
• Loss on sale of furniture	600

Prepare a statement showing the reconciliation between the figure of net profit as per cost accounts and the figure of net profit as shown in the financial books.

Ques 18: M/s. Raja Traders have furnished the following information from financial books for the year ended 30th June 1998.

Trading and Profit and Loss Account

To opening stock (500 units at Rs. 35 each)	17,500	By sales (10,250 units)	7,17,500
To material consumed	2,60,000	By Closing Stock	
To Wages	1,50,000	(250 units at Rs. 50 each.)	12,500
To Gross profit	<u>3,02,500</u>		
	<u>7,30,000</u>		<u>7,30,000</u>
To factory overheads	94,700	By Gross Profit	3,02,500
To office overheads	1,06,000	By interest	250
To selling expenses	55,000	By Rent	10,000
To provision for bad debts	4,000		
To Goodwill written off	5,000		
To Net profit	<u>48,050</u>		
	<u>3,12,750</u>		<u>3,12,750</u>

The cost sheet shows the following:

- Cost of materials at Rs. 26 per unit and labour cost Rs. 15 per unit produced.
- Factory overheads are absorbed at 60% of labour cost.
- Office overheads are absorbed at 20% factory cost.
- Selling expenses are charged at Rs. 6 per unit.
- Opening stock of finished goods is valued at Rs. 45 per unit and closing stock as in financial books.

You are required to prepare:

- A statement showing cost and profit as per cost accounts for the year ended 30.6.1998:
- Statement showing the reconciliation of profit disclosed in cost accounts with the profits shown in financial accounts.

Profit as per cost A/c Rs. 46,000

Ques 19: Prepare a Memorandum Reconciliation A/c from the following particulars: Profit shown by cost books Rs. 30,114 and by financial books Rs. 19,760. On reconciling the following information is available:

- (1) Overhead absorbed in cost books Rs. 7,500 and incurred Rs. 6,932.
- (2) Director's fees not included in cost books Rs. 750.
- (3) Provision for bad debts Rs. 600.
- (4) A new work was taken for Rs. 12,000 and depreciation of 5% was provided for only in the financial A/c.
- (5) Transfer fees Rs. 28.
- (6) Income tax Rs. 9,000.

Ques 20: From the following figures prepare a reconciliation statement:

	Rs.
• Net loss as per costing records	1,72,400
• Works overhead under recovered in costing	3,120
• Administrative overhead recovered in excess	1,700
• Depreciation charged in Financial records	11,200
• Depreciation recovered in costing	12,500
• Interest received not included in costing	8,000
• Obsolescence charged (loss) in financial records	5,700
• Income tax provided in financial books	40,300
• Bank Interest credited in Financial books	750
• Stores adjustment (credit) in Financial	475
• Valuation of opening stock in: Cost accounts	52,600
Financial accounts	54,000
• Valuation of closing stock in: Cost accounts	52,000
Financial accounts	49,600
• Interest charged in cost accounts but not in Financial accounts	6,000
• Preliminary expenses written off in financial accounts	800
• Provision for doubtful debts in financial accounts	150

Ans: Loss as per Financial Account Rs. 2,08,045

Ques 21: M/s H.K. Piano Company showed a net loss of Rs. 4,16,000 as per their financial accounts for the year ended 31st March 1998. The cost accounts, however, disclosed a net loss of Rs. 3,28,000 for the same period. The following information was revealed as a result of scrutiny of the figures of both the sets of books:

(i) Factory overheads under-recovered	6,000
(ii) Administration overheads over-recovered	4,000
(iii) Depreciation charged in financial accounts	1,20,000
(iv) Depreciation recovered in costs	1,30,000
(v) Interest on investment not included in costs	20,000
(vi) Income-tax provided	1,20,000
(vii) Transfer fees (credit in financial books)	2,000
(viii) Stores adjustment (credit in financial books)	2,000

Prepare a Memorandum reconciliation account.

Ques 22: The Trading and P&L A/c of a company for the year ended 31-12-2006 is as follows:

Particulars	Rs.	Particulars	Rs.
To Materials consumed	1,09,600	By Sales (2,400 units)	2,40,000
To Wages	60,400	By stock of finished goods (80 units)	6,400
To factory Expenses	33,200	By Work-in progress	
To Administration Expenses	15,296	Materials	3,360
To Selling & Distribution Exp.	18,000	Wages	1,440
To Preliminary Expenses	1,400	Factory Expenses	<u>880</u>
To Interest on Loan	1,000	By Dividend received	5,600
To Net Profit	13,824		720
	2,52,720		2,52,720

The company manufacturers a standard unit. In the cost accounts, Factory Expenses have been charged to the production at 20% on Prime Cost; administration Expense at Rs. 6 per unit on total units produced and selling and distribution expenses at Rs. 8 per unit sold.

You are required to prepare a costing profit and loss account of the company and a reconciliation statement for reconciling the difference in the net profit as shown by the financial profit and Loss Account and the costing Profit and Loss Account. [Ans. Cost Profit Rs. 14,400]

Ques 23: Modern Company Limited furnishes the summary of Trading and Profit Loss Account for the year ended 31st December, 2006:

Particulars	Rs.	Particulars	Rs.
To Raw Materials	1,39,600	By Sales (12,000 units)	4,80,000
To Direct Wages	76,200	By Finished stock (200 units)	8,000
To Production Overheads	42,600	By Work-in progress	
To Administration Overheads	39,100	Materials	28,200
To Selling & Distribution OH	42,700	Wages	11,796
To Preliminary Expenses w/o	2,501	Production OH	<u>7,999</u>
To Goodwill written off	2,200	By Interest on securities (Gross)	47,995
To Dividends (Net)	3,000		6,000
To Income-Tax	4,100		
To Net Profit	1,89,994		
	5,41,995		5,41,995

The Company manufactures a standard unit, scrutiny of cost records for the same period shows that:

- Factory overheads have been allocated to the production at 20% on Prime Cost
- Administration overheads have been charged at Rs. 3 per unit on units produced.
- Selling and Distribution expenses have been charged at Rs. 4 per unit on units sold.

You are required to prepare a Statement of Cost to work out Profit as per Cost Accounts and to reconcile the same with that shown in the financial accounts.

Ques 24: A manufacturing company has disclosed a net loss of Rs.2,13,000 as per their cost accounting records for the year ended March 31, 2009. However, their financial accounting records disclosed a net loss of Rs.2,58,000 for the same period. A scrutiny of data of both the sets of books of accounts revealed the following information:

	Rs.
(i) Factory overheads under absorbed	5,000
(ii) Administration overheads over absorbed	3,000
(iii) Depreciation charged in financial accounts	70,000
(iv) Depreciation charged in cost accounts	80,000
(v) Interest on investments not included in cost accounts	20,000
(vi) Income – tax provided in financial accounts	65,000
(vii) Transfer fees (credit in financial accounts)	2,000
(viii) Preliminary expenses written off	3,000
(ix) Over – valuation of closing stock of finished goods in cost accounts	7,000

Prepare a Memorandum Reconciliation Account.

Answer:

Memorandum Reconciliation Account

Particulars	Rs.	Particulars	Rs.
To net loss as per costing books	2,13,000	By Administration overhead over absorbed in costs	3,000
To factory overheads under absorbed	5,000	By Depreciation over charged in cost books (80,000 – 70,000)	10,000
To income tax not provided in cost books	65,000	By Interest investments not included in cost books	20,000
To preliminary expenses written off in financial books	3,000	By Transfer fees not considered in cost books	2,000
To Over- valuation of closing Stock of finished goods in cost books	7,000	By Net loss as per financial books	2,58,000
	2,93,000		2,93,000

Ques 25: The following is the Trading and Profit & Loss Account of Omega Limited

Dr.			Cr.		
Particulars		Rs.	Particulars		Rs
To	Materials Consumed	23,01,000	By	Sales (30,000 units)	48,75,000
To	Direct Wages	12,05,750	By	Finished Goods Stock (1,000 units)	1,30,000
To	Production Overheads	6,92,250	By	By Work-in-progress:	
To	Administration Overheads	3,10,375		Materials	55,250
				Wages	26,000
				Production Overheads	16,250
To	Selling & Distribution Overheads	3,68,875	By	Dividends Received	97,500
To	Preliminary Expenses Written off	22,750			3,90,000
To	Goodwill Written off	45,500	By	Interest on Bank Deposits	65,000
To	Fines	3,250			
To	Interest on Mortgage	13,000			
To	Loss on Sale of Machine	16,250			
To	Taxation	1,95,000			
To	Net Profit for the year	3,83,500			
		55,57,500			55,57,500

Omega Limited manufactures a standard unit.

The Cost Accounting Records of Omega Ltd. Show the following:

- (i) Production overheads have been charged to work-in-progress at 20% on Prime cost.
- (ii) Administration Overheads have been recovered at Rs. 9.75 per finished Unit.
- (iii) Selling & Distribution Overheads have been recovered at Rs. 13 per unit sold.
- (iv) The Under–or Over-absorption of overheads has not been transferred to costing P/L/A/c

Required:

- (i) Prepare a Performa Costing Profit & Loss account, indicating net profit.
- (ii) Prepare a statement reconciling the profit disclosed by the cost records with that shown in Financial accounts

(Ans. Net Profit as per Cost Accounts Rs. 2,14,500)

Ques 26 : R Limited showed a net loss of Rs.35,400 as per their cost accounts for the year ended 31st March, 2012. However, the financial accounts disclosed a net profit of Rs.67,800 for the same period. The following information were revealed as a result of scrutiny of the figures of cost accounts and financial accounts;

	Rs.
(i) Administrative overhead under recovered	25,500
(ii) Factory overhead over recovered	1,35,000
(iii) Depreciation under charged in cost Accounts	26,000
(iv) Dividend received	20,000
(v) Loss due to obsolescence charged in Financial Accounts	16,800
(vi) Income tax provided	43,600
(vii) Bank interest credited in Financial Accounts	13,600
(viii) Value of opening stock:	
In Cost Accounts	1,65,000
In Financial Accounts	1,45,000
(ix) Value of closing stock:	
In Cost Accounts	1,25,500
In Financial Accounts	1,32,000
(x) Goodwill written – off in Financial Accounts	25,000
(xi) Notional rent of own premises charged in cost Accounts	60,000
(xii) Provision for doubtful debts in Financial Accounts	15,000

Prepare a reconciliation statement by taking costing net loss as base.

Ques 27: A manufacturing company has disclosed a net loss of Rs.8,75,000 as per their cost accounting records for the year ended March 31,2010. However, their financial accounting records disclosed a net loss of Rs.7,91,250 for the same period. A scrutiny of the data of both the sets of books of accounts revealed the following information:

	Rs.
(i) Factory overheads over – absorbed	47,500
(ii) Administration overheads under – absorbed	32,750
(iii) Depreciation charged in financial Accounts	2,25,000
(iv) Depreciation charged in cost Accounts	2,42,250
(v) Interest on investments not included in Cost	62,750
(vi) Income tax provided in Financial Accounts	7,250
(vii) Transfer fees (credit in Financial Accounts)	12,500
(viii) Preliminary expenses written off	27,500
(ix) Under – valuation of opening stock in Cost Accounts	6,250
(x) Under valuation of closing stock in Cost Accounts	17,500

Required : Prepare a Memorandum Reconciliation A/c.

Ans.

Memorandum Reconciliation Account

Particulars	Rs.	Particulars	Rs.
To Net loss as per Cost Accounting records	8,75,000	By Factory overheads over absorbed	47,500
To Administrative overheads under – absorbed	32,750	By excess charge of depreciation in cost Accounts (2,42,250 – 2,25,000)	17,250
To Income tax provided in Financial Accounts	7,250	By Transfer fee	12,500
To preliminary expenses written off	27,500	By Interest on investment not included in Cost Accounts	62,750
To Under valuation of opening stock in Cost Accounts	6,250	By Under valuation of Closing stock in Cost Accounts	17,500
		By Net loss as per financial records	7,91,250
	9,48,750		9,48,750