

COST ACCOUNTING III B.COM

Definition of costing:

Costing is defined as “ The technique and process of ascertaining costs” – CIMA

Definition of Cost Accounting:

In the words of J.M. Fremgen, “Cost Accounting is the process of recording, classifying , allocating and reporting the various costs incurred in the operation of an enterprise”.

Meaning of cost:

Cost refers to the total expenses which are incurred to produce an article. Cost includes both various cost and fixed cost. Cost consists of all the expenses incurred (actual or notional) in producing a commodity or executing a contract.

Differences between Cost Accounting and Financial Accounting:

Financial Accounting	Cost Accounting
<p>1. Purpose The purpose is external reporting to Shareholders, creditors, bankers, government and agencies.</p> <p>2. Statutory Requirements: All companies must prepare its final accounts.</p> <p>3. Recording: All trading transactions are recorded in financial records.</p> <p>4. Aim: The aim of financial account is to prepare Trading. Profit and Loss account and Balance sheet of a concern.</p> <p>5. Period: Financial reports are prepared at the end of every accounting year.</p> <p>6. Stock Valuation: Stock is valued at cost price or market price whichever is lower.</p>	<p>The purpose is internal reporting to the management.</p> <p>Only some companies prepare its cost accounts.</p> <p>Expenses which are incurred to produce and sell the products are recorded in cost records.</p> <p>The main purpose is to findout the total cost and profit for each of the units.</p> <p>Cost reports are prepared at short intervals.</p> <p>Stock is valued at cost price.</p>

<p>7. Figures: Actual costs incurred are recorded.</p> <p>8. Classification of cost: Costs are not classified in to fixed cost and variable cost.</p> <p>9. Information: Monetary information is only used.</p> <p>10. Analysis of Cost: Expenditure is analysed item-wise.</p> <p>11. Fixation of selling price: It does not provide necessary data for fixation of selling prices.</p> <p>12. Duration of Reporting: Financial accounts provide financial information once a year.</p> <p>13. Control of costs: It does not provide adequate control over costs.</p>	<p>Costs are estimated well in advance of production.</p> <p>Costs are classified in to fixed cost and variable costs.</p> <p>Non monetary information is also used.</p> <p>Expenditure is analysed department wise or cost centrewise.</p> <p>It provides necessary data for fixation of selling prices.</p> <p>Cost accounting provides cost information at frequent intervals.</p> <p>It provides adequate control over costs.</p>
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Differences between Management Accounting and Cost Accounting:

Management Accounting	Cost Accounting
i) It provides information to the management for efficient management of the business.	It is used to determine and record the cost of producing a product or a service.
ii) It deals with projection of future activities.	It is based on past and present figures.
iii) No principles and procedures are being followed.	Certain principles and procedures are being followed.
	Quantitative data recorded.

iv)	Quantitative and Qualitative data are recorded.	<p>It provides information to the management.</p> <p>The scope of cost accounting is very narrow. That is, cost ascertainment only.</p> <p>It is evolved out of financial accounting.</p> <p>It is developed from the period of industrial revolution.</p>
v)	It provides information to all (i.e.) Both internal and external.	
vi)	The scope of this accounting is very wide.	
vii)	It is evolved out of cost Accounting.	
viii)	Management accounting has developed only in the last forty years.	

12. What is a cost sheet? How is it prepared?

Cost sheet is a written statement designed to show the cost of a product, job or process, depending upon the requirement of management for the purpose of control.

Problem 1 :

Ascertain the cost and selling price from the following:

Materials consumed Rs. 6,000

Wages paid Rs. 9,000

Works on cost 50% on wages.

Office on cost 20% on work cost.

Selling on cost 10% on the work cost.

Profit 20% on cost.

SOLUTION :

COST SHEET

	Rs.
Material consumed	6,000
Wages paid	9,000
Prime cost	15,000
Add : Work cost $(9,000 \times \frac{50}{100})$	4,500
Work cost	19,500
Add : Office Expenses $(19,500 \times \frac{20}{100})$	3,900

Add : Selling cost ($19,500 \times \frac{10}{100}$)	Cost Production	23,400 1,950
Add : Profit ($25,350 \times \frac{20}{100}$)	Cost sales	23,350 5,070
	Sales	30,420

PROBLEM 2 :

Form the following particular prepare a cost sheet.

	Rs.
Stock of finished goods (1.4.2000)	36,400
Stock of finished goods (30.04.2000)	39,000
Stock of raw materials (1.4.2000)	16,640
Stock of raw materials (30.4.2000)	17,680
Purchase of raw materials	3,79,600
Production wages	2,58,440
Sales of finished goods	7,69,600
Works overheads	64,610
General overheads	35,080

SOLUTION :

STATEMENT OF COST AND PROFIT

	Rs.
Stock of Raw materials (1.4.2000)	16,640
Add : Purchase of raw materials	3,79,600
Less : Stock of Raw materials (30.04.2000)	3,96,240 17,680
	Raw materials consumed
Add : Production wages	3,78,560 2,58,440
	Prime cost
Add : Works overheads	6,37,000 64,610
	Factory cost
Add : General overheads	7,01,610 35,080

Cost of production	7,36,690
Add : Stock of finished goods (1.4.200)	36,400
Less: Stock of finished goods (30.04.2000)	7,73,090 39,000
Cost of goods sold	7,34,090
Profit (Bal. Fig)	35,510
Sales	7,69,600

PROCESS COSTING

Process Costing is a method of costing which is used to ascertain the cost of a product at each process or stage of production. The output of one process becomes the input of next process. The raw-material passes from one process to next process until the last process. Process costing is used in industries where standardised goods are produced.

Definition:

Process costing is “that form of operation costing which applies where standardised goods are produced”. (Terminology of ICMA)

Normal and abnormal wastage:

Normal wastage:

It is the amount of loss which is inherent in the process and is unavoidable. It is an uncontrollable cost. The quantity of normal loss is entered on the credit side of the process account. The value of normal scrap is credited to process account.

Abnormal wastage or abnormal loss:

When the actual loss is more than the estimated normal loss, then that excess loss is known as abnormal loss. That is, any loss exceeding the normal loss is known as abnormal loss.

Abnormal loss account is debited with the quantity and cost thereof and process account is credited. Realisable value of abnormal loss quantity will be credited to the abnormal loss account and the balance is written to costing profit and loss account.

Value of abnormal loss:

$$\frac{\text{Total cost-scrap value}}{\text{Total input-Normal loss in units}} \times \text{units of abnormal loss}$$

Abnormal Gain:

If the actual loss is less than the estimated normal loss, the difference may be treated as abnormal Gain. The process account is debited with the quantity and value of abnormal gain and abnormal gain account is credited. The process account is credited with the quantity and value of normal scrap. The balance of process account is transferred to costing profit and loss account.

Value of Abnormal Gain:

$$\frac{\text{Total cost-scrap value}}{\text{Total input-Normal loss in units}} \times \text{units of abnormal gain}$$

PROBLEM 1:

A product is completed in three consecutive processes during a particular month. The input to Process I of the basic raw material was 5,000 units at Rs. 2 per unit. Other information for the month was as follows:

	Process 1	Process 2	Process 3
Out put (units)	4,700	4,300	4,050
Normal Loss as% of input	5	10	5
Scrap Value per unit (Rs.)	1	5	6
Direct Expenses (Rs)	9,750	9,910	15,560
Direct Wages (Rs)	3,000	5,000	8,000

Total overhead Rs. 32,000 chargeable as percentage of Direct Wages.

There were no opening or closing work-in-progress stocks. Compile of three process accounts and finished stock account with details of abnormal loss and gain, where applicable.

SOLUTION :

PROCESS 1 ACCOUNT

Particulars	Units	Amt Rs.	Particulars	Units	Amt Rs.
To Input	5,000	10,000	By Normal Loss (5% on input)	250	250
To Direct Wages		3,000	By Abnormal Loss (@ Rs. 6)	50	300
To Direct Expenses		9,750	By Transfer to Process 2 (@ Rs. 6)	4,700	28,200
To Overheads (See note)		6,000			
	5,000	28,750		5,000	28,750

PROCESS 2 ACCOUNT

Particulars	Units	Amt Rs.	Particulars	Units	Amt Rs.
To Process 1	4,700	28,200	By Normal Loss (10% on input)	470	2,350
To Direct Wages		5,000	By Transfer to Process 3 (@ Rs. 12)	4,300	51,600
To Direct Expenses		9,910			
To Overheads		10,000			
To Abnormal gain (@ Rs. 12)	70	840			
	4,770	53,950		4,770	53,950

PROCESS 3 ACCOUNT

Particulars	Units	Amt Rs.	Particulars	Units	Amt Rs.
To Process 2	4,300	51,600	By Normal Loss (5% on input)	215	1,290
To Direct Wages		8,000	By Abnormal Loss (@ Rs.22)	35	770
To Direct Expenses		15,560	By Finished Stock (@ Rs. 22)	4,050	89,100
To Overheads		16,000			
	4,300	91,160		4,300	91,160

ABNORMAL LOSS ACCOUNT

Particulars	Units	Amt Rs.	Particulars	Units	Amt Rs.
To Process 1	50	300	By Scrap Value		
To Process 3	35	770	Process 1 (@ Rs. 1)	50	50
			Process 3 (@ Rs. 6)	35	210
			By Profit & Loss Account (Loss)		810
	85	1,070		85	1,070

ABNORMAL GAIN ACCOUNT

Particulars	Units	Amt Rs.	Particulars	Units	Amt Rs.
To Scrap Value (Rs 5)	70	350	By process 2	70	840
To Profit		490			
	70	840		70	840

2. Make out the necessary accounts from the following details:

	Process A	Process B
	Rs.	Rs.
Materials	30,000	3,000
Labour	10,000	12,000
Overheads	7,000	8,600
Input (Units)	20,000	17,500
Normal loss	10%	4%
Sale of waste per unit	Re. 1	Rs. 2

There was no opening or closing stock or work-in-progress. Final output from process B was 17,000 units.

Solution:

Process A Account

Particulars	Units	Amt Rs.	Particulars	Units	Amt Rs.
To Material	20,000	30,000	By Normal Loss		
To Labour	—	10,000	(10%)	2,000	2,000
To Overheads	—	7,000	By Abnormal Loss	500	1,250
			By Process B	17,500	43,750

			A/c Rs.2.50		
	20,000	47,000		20,000	47,000

Process B Account

Particulars	Units	Amt Rs.	Particulars	Units	Amt Rs.
To Process A A/c	17,500	43,750	By Normal Loss		
To Material	–	3,000			
To Labour	–	12,000	(4%)	700	1,400
To Overheads	–	8,600			
To Abnormal Gain	200	785	By Finished Stocks	17,000	66,735
	17,700	68,135		17,000	68,135

Normal Loss Account

Particulars	Units	Amt Rs.	Particulars	Units	Amt Rs.
To Process A A/c	2,000	2000	By Sale	2,500	3,000
To Process B A/c	700	1,400	(Process A: 2000*Re. 1+Process B 500* Rs. 2)		
			By Abnormal Gain A/c	200	400
	2,700	3,400		2,700	3,400

Abnormal Loss Account

Particulars	Units	Amt Rs.	Particulars	Units	Amt Rs.
To Process A A/c	500	1,250	By Sale (500*Re. 1)	500	500
			By Costing P&L A/c	–	750
	500	1,250		500	1,250

Abnormal Gain Account

Particulars	Units	Amt Rs.	Particulars	Units	Amt Rs.
To Normal Loss A/c	200	400	By Process B A/c	200	785
To Costing P&L A/c	–	385			

	200	785		200	785
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Costing Profit And Loss Account

Particulars	Amt Rs.	Particulars	Amt Rs.
To Abnormal Loss A/c	750		
		By Abnormal Gain A/c	385

Standard Costing

I. Material Variances

$$MCV = (SQ * SP) - (AQ * AP)$$

$$MPV = AQ(SR - AR)$$

$$MUV = SR(SQ - AQ)$$

$$MMV = SR(SQ - AQ)$$

(B) When Actual Weight of mix differs from Std. Mix:

$$= SR(RSQ - AQ)$$

Total weight Actual Mix

$$RSQ = \frac{\quad}{\quad} * SQ$$

Total Weight Standard Mix

$$MYV = SYR(SY - AY)$$

When Actual Mix differ from Standard Mix:

$$= SYR(ASY - RSY)$$

1) From the following particular compute (a) MCV (b)MPV (c) MUV:

Quantity of materials purchase 3000 Units

Value of material Purchase Rs. 9000

Standard Quantity of material required per tonne of

Output 30 Units

Standard rate of material	Rs. 2.50 Per Unit
Opening stock of material	Nil
Closing Stock of material	500 Unit
Output during the period	80 Tonnes

Sollution:

$$\begin{aligned} \text{Material consumed} &= 3,000 - 500 \\ &= 2,500 \text{ units} \end{aligned}$$

$$\text{Rs. 9,000}$$

$$\text{Actual Rate of material} = \frac{\text{Rs. 9,000}}{3,000} = \text{Rs. 3 per unit}$$

$$\text{Standard quantity for actual output} = 30 * 80 = 2,400 \text{ units}$$

$$\begin{aligned} \text{MCV} &= (\text{SR} * \text{SQ}) - (\text{AR} * \text{AQ}) \\ &= (\text{Rs. } 2.50 * 2,400) - (\text{Rs. } 3 * 2,500) \\ &= \text{Rs. } 6,000 - \text{Rs. } 7,500 = \text{Rs. } 1,500 \text{ (Adverse)} \end{aligned}$$

$$\begin{aligned} \text{MPV} &= \text{AQ} (\text{SP} - \text{AP}) \\ &= 2,500 (\text{Rs. } 2.50 - \text{Rs. } 3) = 2,500 (-\text{Rs. } 0.50) = \text{Rs. } 1,250 \text{ (Adverse)} \end{aligned}$$

$$\begin{aligned} \text{MUV} &= \text{SP} (\text{Std. qty.} - \text{AQ}) \\ &= \text{Rs. } 2.50 * (2,400 - 2,500) \\ &= \text{Rs. } 2.50 (-100) \\ &= \text{Rs. } 250 \text{ (Adverse)} \end{aligned}$$

LABOUR VARIANCES

$$\text{LCV} = (\text{ST} * \text{SR}) - (\text{AT} * \text{AR})$$

$$\text{LRV} = \text{AT}(\text{SR} - \text{AR})$$

$$\text{LEV} = \text{SR}(\text{ST} - \text{AT})$$

Labour Idle Time Variance = Standard Rate of Pay * Abnormal Idle Time

$$\text{LMV} = (\text{SR} * \text{ST}) - (\text{SR} * \text{AT})$$

$$\text{LMV} = \text{SR}(\text{RST} - \text{AT})$$

$$\text{RST} = \frac{\text{Total Time of Actual Mix}}{\text{Total Time of Std. Mix}} * \text{Standard Cost of Actual Mix}$$

With the help of following information calculate

- a) Labour cost variance
- b) Labour rate variance
- c) Labour efficiency variance

Standard hours : 40 @ Rs. 3 per hour

Actual hours : 50 @ Rs. 4 per hour

Solution :

- (a) Labour Cost Variance = (Std time x Std rate) – (Actual time x Actual rate)
= (40 x Rs. 3) – (50 x Rs. 4)
Rs. 80 (A)
- (b) Labour Rate Variance = Actual Time (Std rate – Actual rate)
= 50 (Rs. 3 – Rs. 4)
Rs. 50 (A)
- (c) Labour Efficiency Variance = Std Rate (Std. time – Actual time)
= Rs. 3 (40 – 50)
Rs. 30 (A)

MARGINAL COSTING

Marginal costing is defined by the ICWA as “the ascertainment by differentiating between fixed cost, and variable costs, of marginal cost and of the effect on profit of changes in volume of type of output”.

The following information was obtained from a company in a certain year

Sales	Rs. 100000
Variable Costs	Rs. 60000

Fixed Costs Rs. 30000

Find the P/V Ratio, break-even point and margin of safety.

Solution :

$$\text{P/V Ratio} = \frac{S-V}{S} \times 100 = \frac{1,00,000 - 60,000}{1,00,000} \times 100 = 40\%$$

$$\text{Break-Even Point} = \frac{F}{\text{P/V Ratio}} = \frac{30,000}{40\%} = \text{Rs. 75,000}$$

$$\text{Margin of safety} = \frac{\text{Profit}}{\text{P/V Ratio}} = \frac{10,000}{40\%} = \text{Rs. 25,000}$$

FROM THE FOLL.FIND OUT

1.Contribution 2.BEP IN UNITS 3.margin of safety 4.profit

Total fixed cost Rs.4500

Total variable cost Rs.7500

Total sales Rs.15000

Units sold 5000

5.Also calculate the volume of sales to earn a profit of Rs.6000

Solution

1.Sales-variable cost =contribution 15000-7500

Contribution per unit =7500

5000

= Rs.1.50

2.BEP IN UNITS = $\frac{F}{C}$ = 4500

C 1.5

=3000 UNITS

3.Margin of safety P/v Ratio = $\frac{C}{s} \times 100 = \frac{7500}{15000} \times 100 = 50\%$

15000

$$\text{BEP SALES} = \frac{F}{\text{P/V Ratio}} = \frac{4500}{0.5} = \text{Rs. } 9000$$

$$\text{P/V Ratio} = 50\%$$

$$\text{Margin of Safety} = \text{Total Sales} - \text{BEP Sales} = \text{Rs. } 15,000 - \text{Rs. } 9,000 = \text{Rs. } 6,000$$

$$\text{d) Profit} = \text{Total Sales} - \text{Total Cost} = 15,000 - (7,500 + 4,500) = 15,000 - 12,000 = \text{Rs. } 3,000$$

(e) Sales to earn a profit of Rs. 6,000

$$\frac{F + \text{Desired Profit}}{\text{P/V Ratio}} = \frac{4,500 + 6,000}{0.5} = \text{Rs. } 21,000$$

$$\text{P/V Ratio} = 50\%$$

BUDGETARY CONTROL

Budgetary control means the establishment of budgets relating to the responsibilities of executives to the requirements of a policy, and continuous comparison of actual with budgeted results either to secure by individual action the objective of that policy or to provide basis for its revision.

Flexible budget

Prepare a flexible budget for overheads on the basis of the foll. data. Ascertain the overheads rates at 50%, 60% and 70% capacity.

At 60% capacity (Rs.)

Variable overheads

Indirect material 6000

Indirect labour 18000

Semi variable overheads

Electricity (40% fixed 60% variable) 30000

Repairs (80% fixed 20% variable)

Fixed overheads

Depreciation 16500

Insurance 4500

Salaries 15000

Total overheads 93000

Estimated direct labour hours 186000

Solution

Flexible Budget and Overhead Rates

Items	50% Capacity	60% Capacity	70% Capacity
Variable overheads:	Rs.	Rs.	Rs.
Indirect material	5,000	6,000	7,000
Indirect labour	15,000	18,000	21,000
Semi-variable overheads:			
Electricity	(1)27,000	30,000	(1)33,000
Repairs and maintenance	(2)2,900	3,000	(2)3,100
Fixed overheads:			
Depreciation	16,500	16,500	16,500
Insurance	4,500	4,500	4,500
Salaries	15,000	15,000	15,000
Total overheads	85,900	93,000	1,00,100
Estimated direct labour hours	1,55,000	1,86,000	2,17,000
Overhead rate	Re. 0.55	Re. 0.50	Re. 0.46

CASH BUDGET

From the foll. forecasts of income and expenditure prepare a cash budget for the 3 months commencing 1st june ,when the bank balance was Rs.100000.

Month	Sale(sRs.)	Purchases(Rs.)	Wages	Fac.exp.	Adm.&Selling Exp.
April	80000	41000	5600	3900	10000
May	76500	40500	5400	4200	14000
June	78500	38500	5400	5100	15000
July	90000	37000	4800	5100	17000
August	95000	35000	4700	6000	13000

A sales commission of 5% on sales,due 2 months after sales ,is payable in addition to selling expenses. Plant valued at Rs.65000 will be purchased and paid for in August , and the dividend for the last financial year of Rs.15000 will be paid in July. There is a 2 months credit period allowed to customers and received from suppliers.

Wages and other exp. 1 month credit

Cash Budget

For 3 months to 31 st August 2005

	June Rs.	July Rs.	August Rs.
Receipts:			
Opening Balance	1,00,000	1,11,400	1,03,075
Sundry debtors	80,000	76,500	78,500
	1,80,000	1,87,900	1,81,575
Payments:			
Sundry creditors	41,000	40,500	38,500
Wages	5,400	5,400	4,800
Factory expenses	4,200	5,100	5,100
Adm. & selling expenses	14,000	15,000	17,000
Sales commission	4,000	3,825	3,925
Purchase of plant	-	-	65,000
Payment of dividend	-	15,000	-
	68,600	84,825	1,34,325
Closing balance	1,11,400	1,03,075	47,250

From the following prepare production budget

Product	Sales (Unit)	Estimated Stock (Unit)	
		I July 2004	30 June 2005
A	1,50,000	14,000	15,000
B	1,00,000	5,000	14,500
C	70,000	8,000	8,000

Production Budget

	Product A Units	Product B units	Product C units
Sales	1,50,000	1,00,000	70,000
Add : Closing Stock	15,000	14,500	8000
	1,65000	1,14,500	78,000
Less Opening Stock	14,000	5,000	8,000
Production	1,51,000	1,09,500	70,000