

# **RANI CHANNAMMA UNIVERSITY**

B.Com – 6<sup>th</sup> Semester

**Elements of Costing – II** 

# **UNIT - 4: MARGINAL COSTING**

Marginal costing is the change in total cost on account of adding/ subtracting one additional unit.

#### **Definition:**

The ICMA London has defined, "Marginal cost as the amount of any given volume of output by which aggregate costs are changed, if the volume of output is increased or decreases.

In simple Marginal cost is the additional cost of producing additional units.

#### For example:

A company is producing 100 cell phones per month. The total fixed cost per month is Rs 10,000 and variable cost per phone is Rs. 500. The total cost per month is:

Marginal Cost (Variable) of 100 phones = 100 X 500	50,000			
Fixed Cost	10,000			
Total Cost	60,000			
If the output is increased by one unit, the cost will be:				
$M_{2} = 1$ ( $L_{2} = 1$ ( $M_{2} = 1$ ) ( $L_{2} = 1$ ) ( $L$				
Marginal Cost (Variable) of 100 phones = 101 X 500	50,500			
Fixed Cost	10,000			

Thus, the additional cost of producing one additional unit is Rs. 500.

#### It is known as marginal cost.

#### **Characteristics of Marginal Costing:**

- 1. It is a technique of analysis and presentation of cost rather than an independent method of costing
- 2. Total costs are classified into fixed costs and variable costs.
- 3. It considers only variable costs in analysis.
- 4. It guides pricing and other managerial decisions on the basis of 'contribution' which is the difference between sales value and variable costs.
- 5. It valuates finished stock and work-in-progress at marginal cost only.
- 6. It charges the fixed costs against 'contribution'
- 7. It takes the difference between contribution and fixed cost as profit or loss.

#### **Assumptions:**

The following are some of the assumptions of marginal costing.

- 1. All costs are divisible into fixed costs and variable costs.
- 2. Selling price and variable cost per unit will remain the same.
- 3. Total fixed costs will remain constant.
- 4. Volume is the only factor which influences the costs.
- 5. There is a linear relationship between variable costs and revenues.

#### **Marginal Cost Equation:**

The following equation is known as basic marginal cost equation:

**If Profit :** Sales – Variable Cost = Fixed Cost + Profit or Loss

**If Loss** : Sales – Variable Cost = Fixed Cost – Loss

#### **Contribution:**

Contribution is the difference between sales and variable cost. In other words, contribution is the excess of sales over the variable cost. It is also known as gross margin or marginal income. It enables to meet fixed costs and contributes to profit.

Contribution = Sales – Variable Cost

Contribution = Fixed Cost + Profit

Contribution = Fixed Cost – Loss

Contribution = Sales x P/V Ratio

#### Profit Volume Ratio (P/V Ratio):

P/V Ratio is a ratio of contribution to sales. It states the relationship between contribution and ales. Therefore it is also called as contribution/sales ratio, or contribution ratio or marginal ratio. It is calculated by using the following formula:

#### **Determination of Profit under Marginal Costing**

			Total	Per Unit
Particulars			(Rs.)	(Rs.)
Sales			xxx	XXX
Less: Variable co	sts			
1. Direct M	laterials	XXX		
2. Direct V	Vages	XXX		
3. Direct E	Expenses	XXX		
4. Variable	e Overheads	XXX	xxx	XXX
Contribution			xxx	xxx
Less: Fixed Cost			xxx	XXX
Profit/Loss			xxx	xxx

 $P / VRatio = \frac{Change in Profit / Loss}{Change in Sales} or \frac{S - V}{Sales} or \frac{F \pm P}{Sales} or \frac{Contribution per unit}{Selling price per unit}$ 

This ratio can also be calculated by comparing the change in contribution or profit to change in sales as follows:

Or 
$$P / VRatio = \frac{Change in Contribution}{Change in Sales}$$
  
Or  $P / VRatio = \frac{Change in Profit / Loss}{Change in Sales}$ 

#### Break Even Point (BEP):

Break-even point is a point at which the total costs are equal to sales. It is a volume of sales at which there is neither profit nor loss. Hence, it is also called as no profit no loss point. If the sale is increased beyond break-even-point level, profit will accrue and if sale is decreased below the BEP level, loss will occur.

- 1. BEP (in units) =  $\frac{Fixed \ Cost}{Contribution \ per \ unit}$
- 2. BEP (in Rs.) = BEP units × Selling price per unit

3. BEP (in Rs.) = 
$$\frac{Fixed Cost}{P/V Ratio}$$

#### Margin of Safety:

Margin of safety is the excess of actual sales over sales at break-even-point. In other words, sales over and above the break-even point are known as margin of safety.

If the margin of safety is large, it is the sign of soundness of the business and if the margin of safety is small, it is a sign of weak position of business.

The margin of safety can be expressed in absolute sales amount or in terms of percentage to sales.

- 1. Margin of Safety (Amount) = Actual sales Sales at BEP
- 2. Margin of Safety (Units) = Actual Sales units BEP Sales units
- 3. Margin of Safety (Amount) =  $\frac{\Pr ofit}{P/V Ratio}$
- 4. Margin of Safety (Units) =  $\frac{\Pr ofit}{Contribution \ per \ unit}$

# **Estimated Sales or Profit:**

In order to calculate the estimated sales at a given profit or estimated profit at given volume of sales the following formulae are used.

- 1. Estimated Sales (units) =  $\frac{Fixed \ Cost + Given \ Pr \ of it}{Contribution \ per \ unit}$
- 2. Estimated Sales (amt) = Estimated Sales (units) × Selling price per unit
- 3. Estimated Sales (amt) =  $\frac{Fixed \ Cost + Given \ \Pr \ ofit}{P / VRatio}$

# Ascertainment of Variable Cost:

- 1. Variable Cost = Sales Contribution
- 2. Variable Cost = Total Cost Fixed Cost

3. Variable Cost ratio to sales = 
$$\frac{Change in Selectory}{Change in Sales}$$

Therefore, Variable Cost = Sales × Variable cost ratio

4. Variable Cost = Sales (1- P/V Ratio)

# 5 Marks Illustrations:

1. Calculate P/V ratio, from the following:

Particulars	Years		
	2010	2011	
Sales (Rs.)	1,50,000	2,00,000	
Profit (Rs.)	25,000	40,000	

Solution: P/V Ratio = 
$$\frac{Change \ in \ \Pr \ ofit}{Change \ in \ Sales}$$
  
=  $\frac{40,000 - 25,000}{2,00,000 - 1,50,000} = \frac{15,000}{50,000} \times 100 = 30\% = P/V$  Ratio

2. From the following particulars, calculate P/V Ratio:

Year	Sales(Rs.)	Profit/Loss (Rs.)
2010	6,00,000	60,000 (loss)
2011	12,00,000	90,000 (Profit)

**Solution:** P/V Ratio

$$= \frac{Change in \operatorname{Pr} ofit}{Change in Sales}$$
$$= \frac{90,000 - (-60,000)}{-1,50,000} - \frac{1,50,000}{-1,50,000}$$

$$= \frac{50,000 - (-00,000)}{12,00,000 - 6,00,000} = \frac{1,50,000}{6,00,000} \times 100 = 25\%$$

3. Calculate P/V Ratio from the following information:

Year	Sales(Rs.)	Total Cost (Rs.)
2010	7,00,000	5,50,000
2011	10,00,000	8,00,000

#### Solution:

Particulars	2011(Rs.)	2010 (Rs.)
Sales	10,00,000	7,00,000
Less: Total Cost	8,00,000	5,50,000
Profit	2,00,000	1,50,000

P/V Ratio

 $= \frac{Change \ in \ \Pr ofit}{Change \ in \ Sales}$ 

$$= \frac{2,00,000 - 1,50,000}{10,00,000 - 7,00,000} = \frac{50,000}{3,00,000} \times 100 = 16.67\% = PV R$$

#### **Break Even Point (BEP)**

- 4. Diya Ltd. Gives the following information, calculate BEP in value and in units.
  - i. Sales 40,000 units at Rs. 20 per unit.
  - ii. Profit volume ratio = 50%
  - iii. Fixed Cost = Rs. 3,20,000

#### Solution:

BEP (Value) = 
$$\frac{Fixed \ Cost}{P / V \ Ratio} = \frac{3,20,000}{0.5} = Rs.6,40,000$$
  
BEP (Units) =  $\frac{BEP \ in \ Value}{Selling \ Price \ Per \ Unit} = \frac{6,40,000}{20} = 32,000 \ Units$ 

5. From the following information of Asha Co. Ltd. Calculate P/V Ratio and Margin of Safety.

FIOID the long	Jwing mior mation of	Asila U	0. LIU. Calculate F / V Ratio a
i.	Sales		Rs. 10, 00,000
ii.	Variable Cost		Rs. 4, 00,000
iii.	Profit		Rs. 3,00,000
Solution:			
Contribution	<b>a</b> = Sales – Vari	able Co	ost
	= Rs. 10,00,000 – Rs.	4,00,0	00
	= Rs. 6,00,000		
Fixed Cost	= Sales – Variable Co	st – Pro	ofit <b>or</b> Contribution - Profit
	= Rs. 10,00,000 – Rs.	4,00,0	00 – Rs. 3,00,000
	= Rs. 10,00,000 – Rs.	7,00,0	00
	= Rs. 3,00,000		

- $P/V \text{ Ratio} = \frac{Contribution}{Sales} = \frac{6,00,000}{10,00,000} \times 100$ = 60% BEP (Value) =  $\frac{Fixed \ Cost}{P/V \ Ratio} = \frac{3,00,000}{0.6} = \text{Rs. 5, 00,000}$ Margin of Safety = Sales - BEP = Rs. 10,00,000 - Rs. 5,00,000 = Rs. 5,00,000
- 6. Fixed expenses of Rs. 3, 60,000 with sales of Rs. 12, 00,000 and profit of Rs. 2,40,000 of a company, calculate the profit volume ratio. If in the next period the company suffered a loss of Rs. 1, 20,000, Calculate sales volume.

#### Solution:

Contribution = Fixed Cost + Profit = Rs. 3,60,000 + Rs. 2,40,000 = Rs. 6,00,000  $= \frac{Contribution}{Sales} = \frac{6,00,000}{12,00,000} \times 100$ P/V Ratio P/V Ratio = 50% Sales in the next period if the company suffered a loss of Rs. 1, 20,000 Sales =  $\frac{Fixed \ Cost - loss}{P/V \ Ratio} = \frac{3,60,000 - 1,20,000}{50\%} = \frac{2,40,000}{0.50} =$ Rs. 4, 80,000 7. Calculate P/V Ratio from the following particulars: Budgeted production and sales - 1, 50,000 units Variable cost Rs. 20 per unit Fixed Cost Rs. 6, 00,000 Selling price per unit Rs. 30 Solution: **Contribution =** Sales – Variable Cost = Rs. 30 - Rs. 20 = Rs. 10  $= \frac{Contribution}{Sales} = \frac{10}{30} \times 100 = 33.33\%$ **P/V** Ratio

8. Arya Ltd has a total turnover of Rs. 10 lakhs. It is enjoying 30% margin of safety. Its total variable cost is 60% of sales. Determine Fixed Cost and BEP in Sales.

Solution:	
Variable Cost	<b>=</b> 60% of Sales
	= 0.60 × Rs. 10, 00,000
	= Rs. 6,00,000
Contribution	<b>= Sal</b> es – Variable Cost
	= Rs. 10,00,000 – Rs. 6,00,000
	= Rs. 4,00,000

P/V R	latio	$=\frac{Contribution}{G} = \frac{4,00,000}{10,000} \times 10000$	0 <b>= 40%</b>				
		Sales = 10,00,000					
Marg	in of Safety	= 30% of Rs. 10,00,000					
		= RS. 3,00,000					
Marg	in of Safety	$=\frac{Proju}{P/V Ratio}$					
	:. Profit	= Margin of Safety × P/V Rati	0				
		= Rs. 3, 00,000 × 0.40					
	Profit	t = Rs. 1, 20,000					
	<b>Fixed Cost</b>	= Contribution – Profit					
		= Rs. 4, 00,000 – Rs. 1, 20,000	= Rs. 4. 00.000 - Rs. 1. 20.000				
		= Rs. 2,80,000					
	BEP (Value)	= Actual Sales – Margin of Safe	tv				
		= Rs. 10.00.000 – 3.00.000	-9				
		= Rs. 7.00.000					
		Fixed (	Cost 2 80 000				
	Alternatively	y: BEP (Value) = $\frac{P}{P/V}$	$\frac{25000}{atio} = \frac{2500,000}{0.40}$ = Rs. 7, 00,000				
9. From	the following p	oarticulars calculate: (RCU. May	2014)				
a. P/	V Ratio b. Fixe	d Cost	-				
Ιy	ear sales Rs. 1,	95,000 profit Rs. 9,000					
II	Year sales Rs. 2	2, 25,000 profit Rs. 15,000					
	Change in Profit $15000-9000$ 6 000						
Solution:	$= \frac{Change in Flogie}{Change in Sales} = \frac{10,000}{2,25,000-1.95,000} = \frac{0,000}{30,000} \times 100$						
	P/V Ratio = 20%						
	Variable Cos	t = Sales (1 - P/V Ratio)					
		= Rs. 2.25.000 (1-0.20)					
		$= \text{Rs} 2.25,000 \times 0.80$					
		= Rs. 1.80.000					
	Fixed Cost	= Sales – Variable Cost – Profit	-				
		= Rs 2 25 000 $-$ Rs 1 80 000 $-$	15 000				
		= Rs. 30.000	20,000				
10. The sa	ales turnover a	nd profit during two periods w	ere:				
	Period	Sales(Rs.)	Profit (Rs.)				
	Period I	20,00,000	2,00,000				
	Period II	30.00.000	4.00.000				
Calcul	ate a. P/V Rati	o: b. Fixed cost (RCU April 2013					
	,	Change in Profit 2 00 000	)				
Solution:	P/V Ratio	$= \frac{Change in 110jii}{Change in Sales} = \frac{2,00,000}{10,00000}$	$\frac{1}{2} \times 100 = 20\%$				
	Variable Cos	= Salas (1 - P/V Patio)	0				
	valiable Cos	$- P_{s} 20.00.000 (1 - 0.20)$					
		$= R_0 20.00.000 (1 - 0.20)$					
		= 16.20,00,000 (0.80) $= 16.00,000$					
	Fixed Cost	- NS. 10,00,000					
	rixeu Cost	- sales $-$ variable Cost $-$ Profit	000				
		= 20,00,000 - 16,00,000 - 2,00	,000				

**= Rs. 2,00,000** 11. Sales Rs. 5,00,000: Fixed cost Rs. 60.000: Variable cost Rs. 3.80 000

Sales RS. 5,00,000; Fixed cost RS. 60,000; Variable cost RS. 3,80,000						
Calculate; a. BEP, b. P	/V Ratio, c. Contribution, d. Profit.	(RCU Apr. 2012)				
Contribution	= Sales – Variable Cost					
	= Rs. 5,00,000 – 3,80,000					
	= Rs. 1,20,000					
P/V Ratio	$= \frac{Contribution}{Sales} = \frac{1,20,000}{5,00,000} \times 100 = 24\%$					
BEP	$= \frac{Fixed \ Cost}{P / V \ Ratio} = \frac{60,000}{0.24} = $ Rs. 2,50,000					

- Profit = Sales - Variable Cost – Fixed Cost = Rs. 5,00,000 - Rs. 3,80,000 - Rs. 60,000 = Rs. 60,000
- 12. From the following information calculate;
  - a. B.E.P. sales value; b. P/V ratio if sales price is reduced by 20% Sales 20,000 units at Rs. 50 per unit: P/V Ratio – 40%, Fixed cost – Rs. 1, 20,000, (RCU May 2011)

#### Solution:

Sales = 20,000 units x Rs. 50 = Rs. 10,00,000 Contribution = Sales x P/V Ratio  $= 10,00,000 \ge 0.40$ = Rs. 4,00,000 **a.** BEP at Sales =  $\frac{Fixed \ Cost}{P/V \ Ratio} = \frac{1,20,000}{0.40} = Rs.3,00,000$ **b.** Variable Cost = Sales(1-P/V Ratio) = 10,00,000 (1-0.40)= 10,00,000(0.60)= Rs. 6, 00,000 Variable Cost Variable cost per unit =  $\frac{Variable \ Cost}{Total \ units} = \frac{6,00,000}{20,000} = Rs.30$  per unit Change in Sales Price: Reduced by 20% Present selling price per unit = Rs. 50 Less: 20% of Rs. 50 = Rs. 10 **New selling price** = Rs. 40 $=\frac{S-V}{S}=\frac{40-30}{40}=\frac{10}{40}=0.25 \text{ or } 25\%$ **New P/V Ratio** New P/V Ratio = 25% 13. From the following particulars calculate: a. P/V Ratio b. Fixed Cost I year sales Rs. 1, 30,000 profit Rs. 6,000

II Year sales Rs. 1, 50,000 profit Rs. 10,000 (KUD May 2010)

Solution: P/	V Ratio	$= \frac{Change in}{Change in}$	$\frac{\text{Pr} ofit}{\text{Sales}} =$	$\frac{4,000}{20,000}$	$-\times 100 = 20\%$
Va	riable Cos	= Sale	$P \leq (1 - P)^2$	V Ratio	) ,
		= Rs. 1,50,00	0 (1 – 0.2	20)	
		= Rs. 1,50,00	0 (0.80)	- )	
		= Rs. 1,20,0	00 0		
Fiz	xed Cost	= Sales – Var	iable Cos	t – Pro	fit
		= Rs.1,50,00	0 – Rs.1,2	0,000	– Rs.10,000
		= Rs. 20,000	)		
14. From the	following o	lata, calculate	e e e e e e e e e e e e e e e e e e e		
a). Break-	even point	sales			
b). No. Of	units to be	sold to earn	the profit	of Rs.	60,000
Se	lling price		-		Rs. 20 per unit
Va	riable cost	(Manufacturi	ng) -		Rs. 11 per unit
Va	riable cost	(selling)			Rs. 03 per unit
Fiz	ked cost		-		Rs. 2, 52,000 a year
(К	UD May 20	09)			
Solution:					
Contribu	tion	= Selling price	ce – Varia	ble Co	st
	= Rs. 2	20 – Rs. 11 - R	s.3		
	= Rs. 2	20 – Rs. 14	= Rs. 6	per ur	nit.
P/V Ratio	$\mathbf{p} = \frac{Con}{c}$	$\frac{tribution}{Sales} = \frac{6}{20}$	$\times 100 = 3$	80%	
a RF	$\mathbf{P} = \frac{Fixe}{e}$	ed Cost $2,52$	$\frac{2,000}{2,000} = \mathbf{R}$	s 84(	) 000
u. Di	P/l	<i>Ratio</i> 0	.30	5.0,10	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
b. No	o. Of units	to be sold to	earn a pi	rofit o	f Rs. 60,000
	_ <i></i>	xed Cost + Pro	ofit _ 2,3	52,000	+60,000
	- Con	tribution Per	unit –	6	5
	$= \frac{3,12}{3,12}$	$\frac{2,000}{2,000} = 52.00$	0 units		
	_	6	o units		
15. From the	following	particulars cal	lculate:		
a. P/	V Ratio	b. Fixed Cost	, c. Break	k-even	point.
I Yea	r sales Rs. I	30 lakhs, pro	fit Rs. 3 la	akhs	
II Year	r sales Rs. S	50 lakhs, prof	fit Rs. 7 la	khs (ŀ	KUD May 2008)
Solution:	P/V R	atio = $\frac{Cha}{Ch}$	ange in P ange in S	er ofit Sales =	$\frac{4,00,000}{20,00,000} \times 100 = 20\%$
	Varia	ble Cost = Sal	les (1 – P/	/V Rati	.0)
		= Rs.	30,00,000	0 (1 – 0	).20)
		= Rs.	30,00,000	0.80) 0	)
		= Rs.	24,00,000	0	
	Fixed	<b>Cost</b> = Sale	es – Varia	ble Co	st – Profit
		= Rs.	30,00,000	0 – Rs.	24,00,000 – Rs. 3,00,000
		= Rs.	30,00,000	0 – Rs.	27,00,000
		= Rs.	3,00,000		

BEP

$$= \frac{Fixed \ Cost}{P/V \ Ratio} = \frac{3,00,000}{0.20} =$$
Rs. 15,00,000

#### Utility of Marginal Costing and Cost-Volume-Profit Analysis:

Marginal Costing and CPV analysis assume a greater significance in guiding management in making various decisions with the help of its tools like contribution, Break-even point, P/V Ratio and Margin of Safety. Following are some of the important areas where marginal costing is effectively applied for decision making.

- 1. Pricing Decisions
- 2. Accepting Special Bulk Orders or Foreign Market Orders
- 3. Profit Planning
- 4. Make or Buy Decisions
- 5. Problem of Key or Limiting factor
- 6. Choice of Profitable Sales Mix
- 7. Decision Making
- 8. Evaluation of Performance
- 9. Determination of optimum Activity Level
- 10. Cost Control

#### **1. Pricing Decisions:**

In normal situations the prices of the products are usually fixed to cover variable cost, fixed cost and desired margin of profit. Under such situations, the marginal costing has no role to play. But during the period of depression and competition marginal costing guides the management in fixing selling price.

According to marginal costing, the price of the product should be equal to marginal cost during depression and competition. If price falls below the marginal cost, it would be advisable to stop the production.

In other words the production should be continued so long as the price equals the marginal cost. It is so because any excess of price over marginal cost contributes to the recovery of fixed cost and minimizes loss to such extent.

#### Example 1:

A cost sheet shows the following situations prevailing in Star Ltd., which is facing depression:

				Rs.	8,000
per ur	nit			Rs. 9	92,000
				Rs.1,	00,000
	Rs. 2	20,000		Rs. 3	30,000
		Rs. 10	,000,		
				Rs. 2	20,000
				Rs. S	50,000
	 per ur	Rs. 2 per unit	Rs. 10 Rs. 20,000 per unit	 Rs. 10,000 Rs. 20,000  per unit 	Rs. 5 Rs. 7 Rs. 10,000 Rs. 20,000 Rs. 3 <b> Rs. 1,</b> per unit Rs. 9 <b> Rs.</b>

There is no sign of improvement in the situation. Therefore, the management wants to know whether it is desirable to stop the production. What should be the minimum price at which company should shut down its production?

#### Solution:

Even if there is a loss of Rs. 8,000, it is not desirable to stop the production. Because, fixed costs will be incurred even if production is stopped and loss would be equal to fixed cost of Rs. 20,000. The

present loss is less because selling price is more than marginal cost and the same contributes towards recovery of fixed costs. Therefore, so long as there is contribution, it is not advisable to stop the production. The following statement gives the clear idea of the situation.

	Per Unit	Total
Marginal Cost	Rs.	Rs.
Sales price of 4,000 units	23.00	92,000
Less: Variable Cost Direct Materials	12.50	50,000
Direct Wages	5.00	20,000
Variable Overheads	2.50	10,000
Marginal (Variable) Cost	20.00	80,000
Contribution	3.00	12,000
Less: Fixed Cost	5.00	20,000
Loss	2.00	8,000

per unit of more than cost of Rs. 20.

The price Rs. 23 is marginal

Therefore, the production should be continued.

The minimum price at which production should be discontinued should be equal to marginal cost. In this case marginal cost is Rs. 20, so minimum price should be Rs. 20. It is better to stop the production if selling price falls below the marginal cost of Rs. 20 to avoid the loss more than fixed cost of Rs. 20,000.

#### 2. Accepting Special Bulk Orders or Foreign Market Orders:

Usually bulk orders received from large scale buyers or foreign dealers are at below the market price. In such case, decision as to accept or reject the order may be difficult. Marginal costing recommends for acceptance of order, if the quoted price is above the marginal cost.

The reason is that the local market price provides contribution sufficient to cover the fixed cost and certain profit, and any contribution from the foreign offer would be net addition to the profit.

However, if the quoted price is below the marginal cost the order should not be accepted. Anyhow care should taken, that there should not be any adverse impact of accepted low quotations on local market.

#### Example 2:

Anderson Ltd., has a capacity to produce 5,000 units but actually produces only 2,000 units for home market at the following costs:

Total Cost:	 Rs. 1,52,000
Variable	 Rs. 16,000
Fixed	 Rs. 10,000
Selling & distribution OH	
Administration OH (Fixed)	Rs. 18,000
Variable	 Rs. 20,000
Fixed	 Rs. 12,000
Factory Overheads:	
Wages	 Rs. 36,000
Materials	 Rs. 40,000

The home market can consume only 2,000 units at a selling price of Rs. 80 per unit. An additional order for the supply of 3,000 units is received from foreign country at Rs. 65 per unit. Should, this order be accepted or not?

	Per Unit	Total Rs.
Particulars	Rs.	3,000 Units
Sales	65.00	1,95,000
Materials	20.00	60,000
Wages	18.00	54,000
Variable Overheads		
Factory overheads	10.00	30,000
Selling & Distribution oh	8.00	24,000
Marginal Cost of Sales	56.00	1,68,000
Contribution	9.00	27,000

#### Marginal Cost and Contribution from foreign order of 3,000 units are shown below:

The acceptance of foreign order will result into additional contribution of Rs. 27,000. Since fixed costs are already recovered from home market price, the additional contribution of Rs. 27,000 is all profit. Therefore, the foreign order should be accepted as it increases the profit by Rs. 27,000.

#### 3. Profit Planning:

Profit planning is the planning for future operations to maximise profits or to maintain a specified level of profit. The sales required to earn a desired amount of profit may be determined with the help of P/V Ratio, whenever there is change in sales price, variable cost, product mix etc.

#### Example 3:

Ashish Ltd., produced and sold 8,000 cycles last year at a price of Rs. 400 each. The cost structure per cycle is as follows:

Materials	 Rs. 80
Labour	 Rs. 40
Variable overheads:	 Rs. 30
<b>Marginal Cost</b>	 Rs. 150
Fixed Overheads	 Rs. 175
<b>Total Cost</b>	 <b>Rs. 325</b>
Profit	 <b>Rs.</b> 75
Sales Price	 <b>Rs. 400</b>

The company has to reduce selling price to Rs. 350 due to tough competition in the coming year. Assuming no change in costs, state the number of cycles to be sold at the new price to ensure the same amount of total profit as in the last year.

#### Solution:

#### Calculation of Contribution and Profit of last year

	Per Unit	Amount
Particulars	Rs.	Rs.
Sales (400 X 8,000)	400-00	32,00,000
Materials (80 X 8,000)	80-00	6,40,000
Labour (40 X 8,000)	40-00	3,20,000
Variable Overheads (30 X 8,000)	30-00	2,40,000
Marginal Cost	150-00	12,00,000
Contribution	250-00	20,00,000
Less: Fixed Cost (175 X 8,000)	175-00	14,00,000
<b>Profit</b> (75 X 8,000)	75-00	6,00,000
<i>New P.V.Ratio</i> = $\frac{SP - VC}{SP - VC} = \frac{350 - 150}{SP - 150} = \frac{200}{SP - 150} = \frac{200}{SP - 150} = \frac{200}{SP - 150} = \frac{200}{SP - 150} = \frac{100}{SP - 150} = 1$	= 4	

*Yew P.V. Ratio* = 
$$\frac{1}{Sales} = \frac{1}{350} = \frac{1}{350} = \frac{1}{7}$$

#### Calculation of Sales to earn the total profit of Rs. 6, 00,000 at Rs. 350 per cycle:

Sales to earn desired profit = 
$$\frac{Fixed \ Cost + Desired \ Pr \ of it}{P / V \ Ratio}$$
$$= \frac{14,00,000 + 6,00,000}{\frac{4}{7}} = \frac{20,00,000 \times 7}{4} = Rs.35,00,000$$
Number of cycles to be sold = 
$$\frac{Total \ Sales}{Selling \ Price \ Per \ Cycle} = \frac{35,00,000}{375} = 10,000$$

#### Number of cycles to be sold = 10,000 Cycles

#### 4. Make or Buy Decisions:

Marginal costing renders useful assistance when a management has to take decision on whether a particular component or part should be manufactured internally or purchased from outside supplier. As per marginal costing technique it is normally done by comparing the outside price with firm's own marginal costing technique, it is normally done by comparing the outside price with firm's own marginal cost.

If the outside price of the component is lower than the marginal cost of manufacturing it, then it is advisable to buy it. On the other hand, if the outside price is higher than the marginal cost, then it is worth to manufacture it.

#### Example 4:

Phillips Radio Company finds that while it costs Rs. 12.50 to make a component X, the same is available in the market at Rs. 11.50 with an assurance of continued supply. The break-down of the cost is;

Total Cost	 <b>Rs.12.50</b>	
Depreciation & other fixed cost	 Rs. 2.50	
Other variable overheads	 Rs. 1.00	
Labour	Rs. 3.50	
Materials	 Rs. 5.50	

- a. Should you make or buy?
- b. What would be your decision, if the supplier offered the component at Rs. 9.70 each.

#### Solution:

#### **Marginal Cost Statement**

	Per Unit
Particulars	Rs.
Materials	5.50
Labour	3.50
Variable Overheads	1.00
Marginal Cost	10.00

- a. The marginal cost of producing the component is Rs. 10 per unit and fixed cost per unit is Rs. 2.50, thereby making a total cost of Rs. 12.50 per unit. But this component is available in the market at Rs. 11.50. As the market price per unit is less than the total cost, apparently it looks better to buy the component instead of making it. But a close observation reveals that the component will actually cost Rs. 14 (i.e. 11.50+2.50) if it is purchased, as the fixed cost of Rs. 2.50 is required to be incurred even if the component is purchased. Therefore, it may not be wise to buy a component which will actually cost Rs. 14, which is being manufactured at Rs. 12.50.
- b. If the price offered by the supplier is Rs. 9.70 per unit, then it is advisable to purchase the component from the outside market as the outside market price of Rs. 9.70 is less than marginal cost of Rs. 10. There will be saving of Re. 0.30 per unit if the component is purchased from outside market.

#### 5. Problem of Key or Limiting Factor:

A key of limiting factor is factor which restricts production and profit of a business concern. It may be shortage of any factor of production such as material, labour, capital, plant capacity or even sales also. In such case, a decision has to be taken regarding the choice of the product whose production is to be increased, decreased or stopped. Ordinarily when there is no limiting factor, the choice of the product will be on the basis of highest P/V Ratio.

But, when there is scarce or limited resources, selection of the product will be on the basis of contribution per unit of scarce factor of production. In short, scarce resources should be utilised for those product lines where the contribution per unit of scarce factor is relatively high.

#### Example 5:

You are given the following data:

Particulars	Product A	Product B
	Rs.	Rs.
Direct Materials	50	50
Direct Wages @ Rs. 1.00 per hour	20	10
Variable Overheads 100% on wages		
Fixed Overheads Rs. 2,000		
Sales	100	80

There is a shortage of labour hour due to strike. You are required to find out the profitability of producing either of the two products.

#### Solution:

#### **Statement of Marginal Cost**

Particulars	Product A	Product B
	Rs.	Rs.
Sales	100	80
Direct Materials	50	50
Direct Wages @ Rs. 1.00 per hour	20	10
Variable Overheads 100% of direct wages	20	10
Marginal Cost	90	70
Contribution	10	10
Contribution per labour hour	0.50	1.00

Working Notes:

Contribution per labour hour	$= \frac{Contribution}{Labour hours}$
Product A	$=\frac{10}{20}=$ Rs. 0.50 per hour
Product B	$=\frac{10}{10}=$ Rs. 1.00 per hour
Number of Labour hours = $\frac{1}{W}$	Direct Wages Tage rate per hour
Product A = $\frac{20}{1}$	$\dot{P} = 20$ hours
Product B = $\frac{10}{1}$	-= 10 hours

Product B is more profitable as contribution per labour hour in its case is more than that of A.

#### Example 6:

Following information is relating to Product A and Product B for which material is the scarce:

Particulars	Product A	Product B
	Rs.	Rs.
Direct Materials: 4 units @ Rs. 10 per unit	40	
5 units @ Rs. 10 per unit		50
Labour	20	30
Overheads Variable	10	10
Overheads Fixed	34	30
Total Cost	104	120
Sales	110	135
Profit	6	15

You are required to find out the product which is more profitable from the point of view of economical use of scarce material.

#### Solution:

#### Marginal Cost Statement

Particulars	Product A	Product B
	Rs.	Rs.
Sales	110	135
Direct Materials: 4 units @ Rs. 10 per unit	40	
5 units @ Rs. 10 per unit		50
Labour	20	30
Overheads Variable	10	10
Marginal Cost	70	90
Contribution	40	45

Working Notes:

**Contribution per unit of material** 

Contribution Number of units of material

Product A = 
$$\frac{40}{4}$$
 = Rs. 10 per unit  
Product B =  $\frac{45}{5}$  = Rs. 9 per unit

Since contribution per unit of material in Product A is more than Product B, available material should be used first for Product A and then when its demand is met, Product B should be produced.

#### 6. Choice of Profitable Sales Mix:

Sales mix refers to the proportion in which various products are produced and sold. The problem of selecting a profitable sales mix arises only when a business concern has more than one product line and each making contribution on its own. Any changes in sales mix results in the change in the profit. The marginal costing guides the management in selecting of most profitable mix. According to marginal costing most profitable sales mix is one which yields maximum contribution.

#### Example 7:

From the following data, you are required to present to management:

- a. The marginal cost of product X and Y and contribution per unit.
- b. The total contribution and profits resulting from each of the suggested sales mixtures.

Particulars	Per unit of X	Per unit of Y
	Rs.	Rs.
Direct Materials:	10.00	8.50
Direct Wages	3.00	2.00
Selling Price	20.50	14.50
Fixed expenses total Rs. 800		
Variable expenses 100% of direct wages		

#### Suggested sales mixtures:

- a. 100 units of X and 200 units of Y
- b. 150 units of X and 150 units of Y
- c. 200 units of X and 100 units of Y

Recommend which of the sales mixtures should be adopted.

#### Solution:

#### **Statement of Marginal Cost**

Particulars	Product X Per Unit (Rs.)	Product Y Per Unit (Rs.)
Selling Price	20.50	14.50
Direct Materials:	10.00	8.50
Direct Wages	3.00	2.00
Variable expenses (100% of Direct wages)	3.00	2.00
Marginal Cost	16.00	12.50
Contribution	4.50	2.00

#### Statement showing contribution and profit from each of the suggested sales mix

Particulars	Mix a X-100 Y-200	Mix b X-150 Y-150	Mix c X-200 Y-100
Contribution:			
On X @ Rs. 4.50 per unit	450	675	900
On Y @ Rs. 2.00 per unit	400	300	200
Total Contribution	850	975	1,100
Less: Fixed expenses	800	800	800
Profit	50	175	300

On the basis of above calculations, sales mix of C is recommended as it yields maximum contribution and profit.

#### 7. Decision Making:

Decision making is a process of selecting best course of action from available alternatives. Various problems like selection of production method, capacity utilisation, discontinuation of line of production, market expansion etc., need decision making. In such cases the best course should be selected on the basis of contribution analysis.

#### 8. Evaluation of Performance:

Performance evaluation of a department or product line or a particular market is necessary for managerial control. The contribution of departments, product lines or sales divisions not only indicates the performance but also provides basis for comparison between them.

#### 9. Determination of Optimum Activity Level:

The management wants to increase or decrease the production depending upon the conditions. The contribution earned at different levels of activities guides the management in raising the level of production. The optimum level of activity is that where marginal cost is equal to selling price.

#### 10. Cost Control:

Marginal costing divides the costs into variable costs and fixed costs. Variable costs are controlled by lower level management and fixed costs are controlled by the top level of management.

### Solution: B.Com. VI. Sem. RCU. 2014 (Case Study)

#### Statement of Marginal Cost

Particulars	Product X	Product Y
	Rs.	Rs.
Sales (A)	150	100
Less: Variable Cost		
Direct Materials	48	28
Direct Labour	10	08
Variable Overheads @ Rs. 3 per hour	09	12
Total Variable Cost (B)	67	48
Contribution (A-B)	83	52
Contribution per labour hour	27.67	13

Working Notes:

	Contribution
Contribution per labour hour	= $\overline{Labour hours}$
Product X	$=\frac{83}{3}=$ Rs. 27.67 per hour
Product Y	$=\frac{52}{4}=Rs. 13 per hour$

Product X is more profitable as contribution per labour hour in its case is more than that of Y.

#### **ALTERNATIVELY:**

# 1. B.Com. VI. Sem. RCU. 2014 (Case Study)

#### Statement of Marginal Cost

Particulars	Product X		Product Y	
		Rs.		Rs.
Selling Price per unit		150		100
Less: Variable Cost:				
Direct Materials	48		28	
Direct Labour	10		8	
Overhead – Variable	9	67	12	48
Contribution per unit		83		52
Standard time to produce		3 hrs		4 hrs
Contribution per labour hour				
$= \frac{Contribution}{Labour hours}$	$\frac{83}{3}$	27.67	$\left \frac{52}{4}\right $	13

Product X is more profitable as contribution per labour hour in its case is more than that of Y.

#### 2. Solution: B.Com. VI. Sem. RCU. May 2013 (Case Study)

#### **Statement of Marginal Cost**

Particulars	Product A	Product B
	Rs.	Rs.
Sales	100	100
Direct Materials	24	16
Direct Wages @ Rs. 2.00 per hour	6	10
Variable Overheads	4	6
Marginal Cost	34	32
Contribution	66	68
Contribution per kg of material	11	17
Contribution per hour of labour:	22	13.60
Contribution per hour of machine	16.50	22.67

# Working Notes:

1.	Materials used in kgs		$= \frac{Cost \ of \ material}{Cost \ per \ kg}$
		Product A	$= \frac{24}{4} = 6 \ kgs$
		Product B	$=\frac{16}{4}=4 \ kgs$
			•
•			Contribution
2.	Contribution per kg of Ma	iterial = $\frac{1}{Nu}$	Contribution mber of kgs materials used
2.	Contribution per kg of Ma	<b>iterial =</b> $\frac{1}{Nui}$ Product A	Contribution mber of kgs materials used $= \frac{66}{6} = Rs. 11 \text{ per kgs}$

3. Contribution per hour of labour: =  $\frac{Contribution}{Labour hours}$ Product A =  $\frac{66}{3}$  = Rs.22 per labour hour Product B =  $\frac{68}{5}$  = Rs.13.60 per labour hour

Labour hours = (A) 6/2=3hours and (B)10/2=5 hours

4. Contribution per hour of machine: =

=  $\frac{Contribution}{Machine hours used}$ 

Product A = 
$$\frac{66}{4}$$
 = Rs.16.50 per hour of machine  
Product B =  $\frac{68}{3}$  = Rs.22.67 per hour of machine

#### **Recommendations:**

a. Product 'B' is recommended when material is in short supply

- b. Product 'A' is recommended when labour is scarce factor
- c. Product 'B' is recommended when production capacity is the limiting factor.

3. Solution: B.Com. VI. Sem. RCU. 2012 (Case Study)

#### Statement of Marginal Cost

Particulars	Product X	Product Y
	Rs.	Rs.
Selling Price per unit	50	75
Materials (A-3X5) (B-5X5)	15	25
Labour	10	15
Overheads Variable	5	5
Marginal Cost	30	45
Contribution per unit	20	30
Contribution per unit of material	6.67	9

Working Notes:

#### 1. Contribution per unit of Material

latarial	Contribution		
laterial	= Number of kgs materials used		
Product X	$=\frac{20}{3}=$ Rs. 6.67 per unit		
Product Y	$=\frac{45}{5}=Rs. 9 per Unit$		

#### **Recommendation:**

Product Y is more profitable as contribution per unit of material in its case is more than that of X.

#### 4. Solution: B.Com. VI. Sem. RCU. 2011 (Case Study)

#### **Statement of Marginal Cost**

5		
Particulars	X Ltd	Y Ltd
Sales	3,00,00	3,00,000
Less: Variable Cost	2,40,000	2,00,000
Contribution	60,000	1,00,000
Less: Fixed Cost	30,000	70,000
Profit	30,000	30,000
P/V Batio - Contribution	60,000	1,00,000
Sales	3,00,000	3,00,000
	= 0.20	= 1/3

#### **Break Even Point**

$$= \frac{Fixed \ Cost}{P / V \ Ratio}$$
  
X Ltd =  $\frac{30,000}{0.20} = Rs.1,50,000$   
Y Ltd =  $\frac{70,000}{1/3} = 70,000 \times 3 = Rs.2,10,000$ 

Margin of Safety = Sales - Sales at BEP

X Ltd. = 3, 00,000 - 1, 50,000 = Rs. 1, 50,000 Y Ltd. = 3, 00,000 - 2, 10,000 = Rs. 90,000

I. Calculation of Profit If Sales increased to Rs. 3,60,000 Profit = Sales X P/V Ratio – Fixed Cost

X = 3,60,000
$$X\frac{1}{5}$$
 -30,000 = Rs.30,000 = Profit Rs. 30,000  
Y = 3,60,000 $X\frac{1}{3}$  -70,000 = Rs.50,000 = Profit Rs. 50,000

**X** = 1,80,000
$$X\frac{1}{5}$$
 -30,000 = Rs 6,000 = Profit Rs. 6,000  
**Y** = 1,80,000 $X\frac{1}{3}$  -70,000 = Rs -10,000 = Loss Rs. 10,000

#### 5. Solution: B.Com. VI. Sem. KUD. 2010 (Case Study)

#### Statement of Marginal Cost and Contribution for Additional order for 10,000 units

Particulars	Per Unit	Total Cost Rs.
	(Rs.)	
<b>Sales (A)</b> (55 × 10,000)	55	5,50,000
Less: Variable Cost		
Materials (20×10,000)	20	2,00,000
Labour Skilled Variable (10,000×10)	10	1,00,000
Variable overheads (10,000×10)	10	1,00,000
Total Variable Cost (B)	40	4,00,000
Contribution (A-B)	15	1,50,000

Suggestions:

- 1. If new foreign order is accepted, contribution and profit will be increased by Rs. 1, 50,000 since fixed cost is already covered from the local market. So it does not affect the local market. Accept the foreign order.
- 2. If the same order comes from the local market, there is a possibility of affecting the price. So it is to be rejected.
- 3. If the demand falls, the minimum price to be quoted must cover the variable cost i.e., Rs. 40 per unit.

#### 6. Solution: B.Com. VI. Sem. KUD. 2009 (Case Study)

#### **Statement of Marginal Cost**

Particulars	Per Unit Cost	
	Product J	Product K
	Rs.	Rs.
Selling Price (A)	80	100
Less: Variable Cost		
Material	20	40
Direct Wages	28	20

Variable Overhead	4	10
Total Variable Cost (B)	52	70
Contribution (A-B)	28	30
P/V Ratio	0.35	0.30
Contribution per kg of Material	14	7.50
Contribution per machine hour	9.33	15

Material consumption per  $kg = \frac{Material \ Cost}{Cost \ per \ kg}$ 

Product 
$$J = \frac{20}{10} = 2$$
 Kgs  
 $P/V$  Ratio  $= \frac{Contribution}{Sales}$   
Product  $J = \frac{28}{80} = 0.35$   
Product  $K = \frac{40}{10} = 4$  Kgs  
Product  $K = \frac{40}{10} = 4$  Kgs

Contribution per kg of material used  $=\frac{CO}{CO}$ 

Product J = 
$$\frac{28}{2} = Rs.14$$
 Product K =  $\frac{30}{4} = Rs.7.50$ 

Contribution per machine hour

Product J = 
$$\frac{28}{3} = Rs.9.33$$
 Product K =  $\frac{30}{2}$ 

#### Suggestions:

a. If the sales potential in units is limited, Product 'K' is profitable as its contribution per kg of material is more than Product J.

Machine hours

= Rs.15

- b. If sales potential in value is limited, Product 'J' is profitable as its P/V Ratio is higher than K.
- c. If Raw material is in short supply, Product 'J' is profitable as contribution per kg of material of Product J is more than K.
- d. If production capacity is limiting factor, Product 'K' is profitable as contribution per machine hour of Product K is more than J.

#### 7. Solution: B.Com. VI. Sem. KUD. 2008 (Case Study)

#### **Statement of Marginal Cost and Contribution**

Particulars	USA @ Rs.	Singapore	Nepal
	323	Rs. 315	300
Sales (5000 units) (A)	16,15,000	15,75,000	15,00,000
Less: Variable Cost			
Direct Materials (20×5000)	1,00,000	1,00,000	1,00,000
Direct Labour (8×5000)	40,000	40,000	40,000
Factory Overhead @ Re.1/unit	5,000	5,000	5,000
Selling & Distribn. @0.8/unit	4,000	4,000	4,000
Total Variable Cost (B)	1,49,000	1,49,000	1,49,000
Contribution (A-B)	14,66,000	14,26,000	13,51,000

Net selling price from USA order = 340-5% of 340= (340-17) = Rs. 323

#### USA order will yield more contribution and profit.

#### **Comparative Statement of Cost and Profit at Full Capacity**

Particulars	At 80%	Additional	At 100%
	20,000 Units	5000 Units	Capacity
			25,000 Units
<b>Sales</b> (20,000 × 400)	80,00,000		
( 500 × 323)		16,15,000	96,15,000
Less: Variable Cost			
Direct Materials (Rs.20)	4,00,000	1,00,000	5,00,000
Direct Labour (Rs.8)	1,60,000	40,000	2,00,000
Factory Overhead @ Re.1	20,000	5,000	25,000
Selling & Distribn. @0.8/unit	16,000	4,000	20,000
Total Variable Cost	5,96,000	1,49,000	7,45,000
Contribution	74,04,000	14,66,000	88,70,000
Less: Fixed Cost	22,000		22,000
Profit	72,82,000	14,66,000	88,48,000

#### 8. B.Com. VI Sem. Nov. 2016:

(a). Statement showing Marginal Cost, Contribution and PV Ratio

Particulars	Product P	Product Q
	Per Unit (Rs.)	Per Unit (Rs.)
Selling Price	30.00	40.00
Direct Materials: (2 kgs)	12.00	
Direct Materials: (3 kgs)		18.00
Direct Wages Per Unit	4.00	4.00
Variable expenses (100% of Direct wages)	4.00	4.00
Marginal Cost	20.00	26.00
Contribution	10.00	14.00
Contribution per kg of material	5.00	4.67
$\mathbf{P/V Ratio} = \frac{Contribution}{Sales}$	$\frac{10}{30} = 0.33$	$\frac{14}{40} = 0.35$

Contribution per kg of material : Product X = Rs. 5, Product Y = Rs. 4.67, Hence Product X is Preferable.

#### (c). Statement showing contribution and profit from each of the suggested sales mix

	Mix I	Mix II	Mix III
Particulars	P- 14,000	P-10,000	P- 8,000
	Q - 6,000	Q-10,000	Q-12,000
Contribution:			
On P@Rs. 10.00 per unit	1,40,000	1,00,000	80,000
On Q @ Rs. 14.00 per unit	84,000	1,40,000	1,68,000
Total Contribution	2,24,000	2,40,000	2,48,000
Less: Fixed Cost	1,20,000	1,20,000	1,20,000
Profit	1,04,000	1,20,000	1,28,000

Sales Mix III is recommended because its total contribution and profit is more than other mixes.

# 8. May 2015. B. Com. VI Sem.

Particulars	Per Unit Cost	
	Product A	Product B
	Rs.	Rs.
Selling Price (A)	100	120
Less: Variable Cost		
Material Cost	10	15
Direct Wages	15	10
Direct Expenses	5	6
Variable Overhead Expenses	15	20
Total Variable Cost (B)	45	51
Contribution (A-B)	55	69
P/V Batio - Contribution	55	69
Sales	100	120
	= 55%	= 57.5%
Less: Fixed Cost	5	10
Profit	50	39
Contribution per kg of Material		
$= \frac{Contribution}{kgs \ used \ per \ unit} \ [A = \frac{55}{2}] \text{ and } [B = \frac{69}{3}]$	= Rs. 27.5	= Rs. 23

# **Statement Showing Contribution**

#### **Comment on the Profitability:**

- a. If the sales potential in units is limited, product 'B' is profitable as the contribution per unit of product B is higher than that of product A.
- b. If sales potential in value is limited, product 'B' is profitable as the PV Ratio of product B is higher than that of A.
- c. If Raw material is in short supply, product 'A' is profitable as the contribution per kg of material in case of 'A' is more than that of B.

# **UNIT - 5: RECONCILIATION OF COST ACCOUNTS AND FINANCIAL ACCOUNTS**

#### Meaning:

In a business concern where Non-integrated Accounting System is followed cost and financial accounts are maintained separately. The difference between the end result of these two are required to be reconciled. Reconciliation of cost and financial accounts mean tallying the profit or loss revealed by both set of accounts. The chief aim is to find out the reasons for the difference between the results shown by Cost Accounts and Financial Accounts. The adjustment of profit or loss shown by cost and financial accounts is called reconciliation of cost and financial accounts.

**Reasons or causes for showing the difference between profit or loss as per cost and financial accounts:** The need for reconciliation arises due to the following reasons:

- **1.** Expenses and losses included in financial accounts only and not in cost accounts: Following are some of the items which will appear only in financial books but not in cost accounts:
  - a. Discount on issue of shares and debentures
  - b. Damages payable under the court orders
  - c. Penalties and fines payable
  - d. Underwriting expenses
  - e. Loss on sale of fixed assets
  - f. Loss due to obsolescence
  - g. Interest on loan
  - h. Income tax
  - i. Dividends
  - j. Goodwill written off
  - k. Preliminary expenses written off
  - l. Reserves and provisions
  - m. Provision for bad and doubtful debts
  - n. Stores adjustment debit balance etc.

On account the above expenses and losses the profit as per financial account is less and profit as per cost account is more.

**2. Incomes and gains credited in financial accounts only and not in cost accounts:** Following are some of the incomes and gains which will appear only in financial books but not in cost accounts:

- a. Interest on bank deposit
- b. Dividend received
- c. Profit on sale of fixed assets
- d. Share transfer fees
- e. Rent received
- f. Commission received
- g. Stores adjustment credited
- h. Interest on investment etc.

On account the above incomes and gains the profit as per financial accounts will be more than that of cost accounts.

- **3.** Expenses and losses appearing only in cost accounts and not in financial accounts: There are some expenses and losses which are included only in cost accounts, but not in financial accounts.
  - a. Rent on own building
  - b. Interest on own capital
  - c. Notional charges etc.

On account of the above items the profit as per costing records will show less profit as compared to financial accounts.

- **4. Incomes appearing only in cost accounts and not in financial accounts**: Some incomes like estimated profit may appear only in cost accounts but not in financial accounts. As result the effect on profit is that, the profit as per costing records will show more profits while compared to profit in financial accounts.
- *5.* **Items appearing in both books at different figures:** The following items are appearing in both books of accounts at different figures:
- *6.* **Overhead:** There is every possibility that the overheads may be show at different figures in both books because of the possibilities of over recovery and under recovery of overhead in costing books.
  - a. **Under recovery of overhead:** Under recovery of overhead means charging or recording of overhead in cost accounts less than what actually incurred. In financial accounts overheads are recorded at the actual figures. Thus there will be some difference in charging the overhead in both books.

When overheads are under recovered in cost accounts then the profit as per cost accounts will be more than the profit as per financial accounts.

b. **Over recovery of overhead:** Over recovery of overhead means charging the overhead in cost accounts more than what actually incurred.

So as result of over recovery of the overhead the costing profit is less than the profit as shown by financial accounts.

**7. Stock valuation:** There will be some difference in the valuation of opening and closing stock in both the accounts because, the stock will be valued at cost price in cost accounts where as the stock is valued at cost price or market price whichever is less in financial accounts.

If opening stock is overvalued in cost accounts, then the profit as per cost accounts is less than the financial accounts and if opening stock is undervalued in cost accounts then profit as per cost accounts is more than financial accounts.

If closing stock is overvalued in cost accounts then the profit as per cost accounts is more than the financial accounts.

If closing stock is undervalued in cost accounts then the profit as per cost accounts is less than the financial accounts.

8. Depreciation: The rules and methods of charging depreciation may vary in two sets of accounts.

If the depreciation is charged in cost accounts is more than the financial accounts then the profit as per cost accounts is less than the financial accounts.

If the depreciation is charged in cost accounts is less than the financial accounts then the profit as per cost accounts is more than the financial accounts.

#### Importance of Reconciliation:

#### Reconciliation of cost and financial account is necessary for the following reasons:

- 1. To ensure arithmetical accuracy of both set of accounts for effective cost ascertainment and cost control.
- 2. To identify the reasons for different results in two sets of accounts.
- 3. To evaluate the reasons for variations for effective internal control.
- 4. To enable the smooth co-operation and co-ordination between the activities of cost and financial accounting departments.
- 5. To ensure the standardization of policies relating to stock valuation, depreciation and absorption of overheads.

**Steps to be followed while preparing reconciliation statement:** The following steps should be taken in to consideration while preparing reconciliation statement:

- 1) Take any one profit as base profit
- 2) Find out the reasons which are responsible to show the difference between profit as per cost accounts and financial accounts
- 3) With those reasons only prepare the reconciliation statement
- 4) If base profit increases with those reasons, then those items should be deducted
- 5) If base profit decreases with those reasons, then those items should be added

#### In simple: More to Less and Less to Add

Particular		Total
Profit as per Cost Account OR Loss as per financial		XXX
accounts	XX	
Add: 1) Over absorption of overheads in Cost accounts		
2) Financial incomes credited in financial books only	XX	
but not in cost accounts		
3) Certain items charged only in cost accounts but	XX	
not		
In financial account	XX	
4) Overvaluation of opening stock in cost accounts as	XX	XXX
Compared to financial accounts		
5) Under valuation of closing stock in cost accounts	XX	
as	XX	
compared to financial accounts	XX	
Less: 1) Under absorption of overheads in cost accounts	XX	XXX
2) Undervaluation of opening stock in cost accounts		
3) overvaluation of closing stock in cost accounts		XXX
4) Purely financial charges		
Profit as per Financial Accounts		

#### Problem No. 1: B.Com. VI. Sem. May, 2009

Profit as per Cost Accounts:		100,000
Add: 1. Share transfer fee credited in FA	2,000	
2. Overheads over-recovered in Cost	3,000	
3. Value of closing stock overvalued in FA	1,000	
4. Interest on investment credited only in FA	2,000	
5. Stores adjustment credited on FA only	500	8,500

		108,500
Less: 1. Income tax provided in Financial Accounts	30,000	
2. Provision for doubtful debts debited only in FA	10,000	
3. Directors fees debited only in FA	4,000	
4. Depreciation charged only in FA	3,500	
5. Goodwill written off in FA only	4,500	52,000
Profit as per Financial Accounts		56,500

# Problem No. 3: B.Com. VI. Sem. May, 2010

Profit as per financial Accounts:		14,000
Add: 1. Works overhead under-recovered in cost	3,000	
2. Obsolescence debited only in FA	5,000	
3. Income tax provided only in FA	10,000	
4. Opening stock overvalued in FA	2,000	
5. Goodwill written off in FA only	1,000	
6. Closing stock undervalued in FA	3,000	
7. Provision for bad debts debited in FA	4,000	28,000
		42,000
Less: 1. Administrative overheads over charged in Cost	6,000	
2. Over recovery of depreciation in cost accounts	4,000	
3. Interest received & credited only in FA	25,000	
4. Store adjustment credited only in FA	2,000	
5. Bank Interest credited only in FA	10,000	
6. Profit on sale of asset credited only in FA	2,000	49,000
Profit as per Cost Accounts		-7,000

#### Problem No. 4: B.Com. VI. Sem. May, 2011

Profit as per financial Accounts:		45,000
Add: 1. Interest on loan charged only in FA	3,000	
2. Goodwill written-off only in FA	2,000	
3. Closing stock undervalued in FA	2,000	
4. Stores adjustment debited only in FA	12,000	
5. Income tax paid & debited only in FA	5,000	
6. Provision for doubtful debts debited only in FA	2,000	26,000
		71,000
Less: 1. Factory overhead over-recovered in cost	2,000	
2. Administrative overhead over-recovered in Cost	3,000	
3. Selling overhead over-recovered in Cost	3,000	
4. Overvaluation of opening stock in Cost	2,000	
5. Commission received & credited in FA only	18,000	28,000
Profit as per Cost Accounts		43,000

#### Problem No. 5: B.Com. VI. Sem. May, 2012

Profit as per Cost Accounts:		200,000
Add: 1. Share transfer fees credited only in FA	4,000	
2. Overheads over-recovered in Cost	6,000	
3. Interest on investment included only in FA	4,000	
4. Stores adjustment credited only in FA	1,000	15,000
		215,000
Less: 1. Income tax provided only in FA	60,000	
2. Provision for doubtful debts debited only in FA	20,000	
3. Directors fees debited only in FA	8,000	
4. Depreciation charged only in FA	7,000	
5. Closing stock overvalued in Cost	2,000	
6. Goodwill written off only in FA	9,000	106,000
Profit as per Financial Accounts		109,000

#### Problem No. 6: B.Com. VI. Sem. May, 2014 5 Marks

Profit as per financial Accounts:		40,600
Add: 1. Interest debited in FA	1,600	
2. Preliminary expenses written off only in FA	2,400	
3. Undervaluation of opening stock in cost	2,800	
4. Overvaluation of Closing stock in Cost	4,800	11,600
		52,200
Less: 1. Over absorption of over-recovered in Cost	17,600	17,600
Profit as per Cost Accounts		34,600

#### Problem 6: KUD B.Com. VI Sem. May 2008

Trading, Profit and Loss A/c			
To Direct Materials	6,800	By Sales	27,000
To Direct Wages	5,400		
To Work Expenses	4,800		
To Gross Profit	10,000		
	27,000		27,000
To Office Expenses	6,000	By Gross Profit	10,000
To Net Profit	4,000		
	10,000		10,000

#### **Cost Sheet**

Particulars	A 300 Units	B 400 Units	Total Rs.
Direct Materials (A-300×12)(B-400×8)	3,600	3,200	6,800
Direct Wages (A-300×10) (B-400×6)	3,000	2,400	5,400
Prime Cost	6,600	5,600	12,200
Add: Works Overheads (50% of Direct Wages)	1,500	1,200	2,700
Works Cost	8,100	6,800	14,900

Add: Office Overheads (20% of Works Cost)	1620	1360	2980
Cost of Production	9,720	8,160	17,880
Profit	5,280	3,840	9,120
<b>Sales</b> (A-50×300) (B-30×400)	15,000	12,000	27,000

### **Reconciliation Statement**

Profit as per financial Accounts:		4,000
Add: 1. Under recovery of works overhead in cost account	2,100	
2. Under recovery of office overhead in cost account	3,020	5,120
Profit as per Cost Accounts		9,120

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