Indian Accounting Association

Subject: Cost and Management Accounting

Topic

Marginal Costing

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MANAGEMENT ACCOUNTING

Unit-IV- Marginal Costing

1. Definition of Marginal Cost and Marginal Costing

1.a. Marginal cost is the increase in total cost for addition of **one unit** to a given level of output.

1.b. Marginal costing is a technique of costing where costs are divided into two groups based on their behavior: Variable cost and fixed cost. Total Variable costs vary proportionately with volume (level of activity, production or sales). Total Fixed costs remain unchanged with volume. Fixed costs are often called period costs.

2. Marginal Costing Vs. Variable Costing

As the total variable cost varies proportionately with the volume of output, per unit variable cost or average variable cost remains constant. Thus, under marginal costing at any level of output, for one additional unit of output total cost changes only by the variable cost per unit, implying that marginal cost is constant and same as variable cost per unit. Thus, in true sense it is variable costing what we popularly name as marginal costing.When total costs cannot be divided into two distinct parts: fixed cost and variable cost, marginal costing technique cannot be applied.

3. Marginal Costing vs. Absorption Costing

3.a. Marginal costing is a technique used for cost and profit forecasting, planning and decision making with respect to volume, cost and profits.

3.b. Under marginal costing stocks are valued at variable costs only. Contribution (= sales less variable cost) is the measure of profitability in marginal costing. From contribution fixed costs are subtracted as period costs to find profits, not allowing any part of the fixed costs to be carried forward to another period through inclusion in value of closing stocks.

3.c. Absorption costing is a technique of costing where costs are ascertained in two broad groups: Direct Costs and Indirect (Overhead) costs.

- Direct costs are identifiable to cost centers
- Cost centers are the location, machine, worker, units or any other activity or process with respect to which costs can be identified separately.
- Indirect costs are not separately identifiable to any cost center.

Direct costs are ascertained on actual basis and overhead costs are absorbed on a pre-determined rate basis. In absorption costing cost of production and cost per unit includes both direct cost at actual and overhead cost absorbed at pre-determined rate. Stocks are valued based on total cost and profits are determined as Sales - total costs +/- adjustment for under/over absorption of overheads. In absorption costing costs are not distinguished between fixed and variable.

4. Some Concepts:

a. Unless otherwise stated, in marginal costing, output units and sales units are always assumed to be same.

b. Marginal cost is same as variable cost per unit in marginal costing. However, in economics, marginal cost is the incremental cost for addition of one unit at a given level of output. If the fixed cost component is segregated, it is the incremental cost in the variable component only. In cost and management accounting, similar concept of incremental/decremental cost for change in output is applied in differential costing. Thus, differential cost is the change in total cost with or without segregating total costs into fixed and variable components.

c. The concept of relevant range is very important in marginal costing. Relevant range is the range in the output level within which the fixed and variable behaviour of costs holds good. Beyond this range even fixed cost may vary and fixed -variable relationship does not hold good.

d. There may be semi-variable costs, which are again divided in fixed and variable components to carry on the marginal costing technique.

5. Contribution

Contribution is sales minus variable costs. Basic assumption is that sales and variable costs both vary proportionate to the volume of output. Thus, selling price per unit is constant and variable cost per unit is also constant. Hence, contribution, the difference between sales and variable costs, is also proportionate to the volume of output and contribution per unit is constant. Thus, by applying marginal costing technique variable costs and contribution can be estimated for any level of sales or output (within the relevant range indeed).

6. Marginal Cost Equation

There are two equations in marginal costing.

The first equation is: Contribution = sales – variable costs.

Here all the components being variable, the ratios of any two components are always constant.

The second equation is: Profit = contribution – fixed costs.

As fixed costs are constant with respect to volume, when contribution varies with volume, profit changes disproportionately with volume.

7. Profit/Volume Ratio

Based on the first equation we may say, sales = variable cost + contribution……..(A)

Dividing (A) by sales, we get: 1 = variable cost/ sales + contribution/sales……..(B)

Here, the ratio of variable cost/ sales is called variable cost to sales ratio and contribution/sales is called P/V ratio (profit-volume ratio, where contribution represents

profit and sales represent volume). P/V ratio is constant and applying P/V ratio on any amount of sales, contribution for the sales can be determined. In the same way applying contribution per unit on any level of output, contribution for that level of output can be determined.

8. Cost-Volume-Profit Analysis

Cost-volume-profit (C-V-P) analysis is basically the application of marginal costing technique in

(a) analysis of costs based on their behaviour with the volume and

(b) analysis of profits, in two steps: step one, contribution, which is sale - variable costs, and step two: profits, which is contribution less fixed costs.

The analysis shows how with change in volume, contribution changes proportionately and profit changes disproportionately.

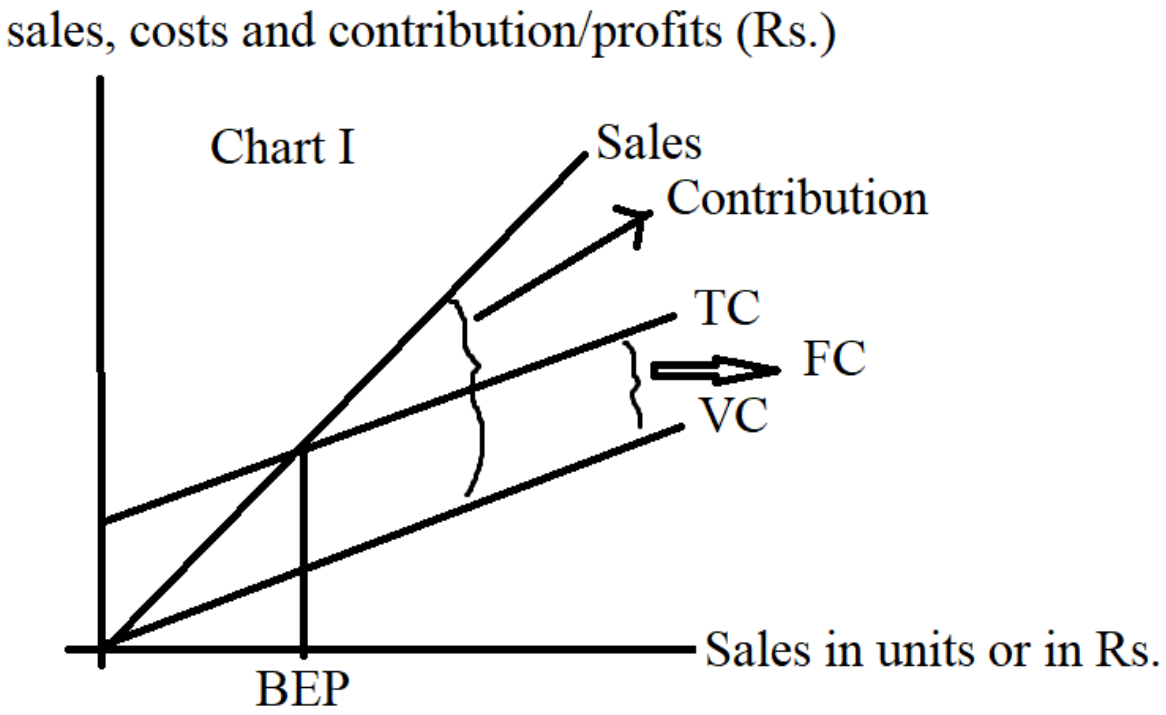
C-V-P analysis is useful for planning and decision making in regard volume, cost and profits.

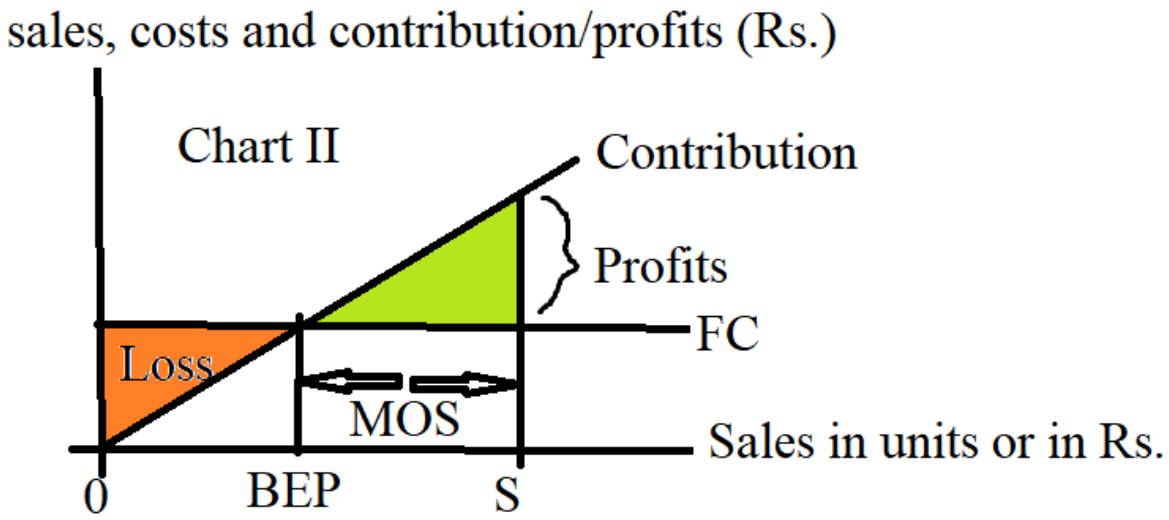
9. Break-Even Analysis

Break-even analysis is a part of C-V-P analysis. Under this analysis break-even point (BEP) is calculated that determines the volume at which sales equal total cost or contribution equals fixed costs or profit equals zero. BEP divides sales into two parts: B-E-Sales and MOS (Margin of Safety).

10. Graphical Presentation

Here, C-V-P analysis and Break-even analysis are explained with graphical presentation. Break-even charts I and II shown below pictorially present the break-even analysis.





Sales and variable cost lines are straight lines moving upwards from origin. ~~as at~~ At zero volume both sales and variable costs are zero but with increase in volume both of them increase at a constant rate, resulting in a constant slope of the lines (i.e., straight lines). Fixed cost in Chart I is added to variable cost and thereby we get total cost line which is also a straight line parallel to the variable cost line. BEP is the point at which sales line and total cost line intersect, measuring the volume of Sales either in Rs. or in units in X-axis and total cost and sales in Rs. in Y-axis. BEP signifies the volume at which sales equal the total cost as shown in Chart I.

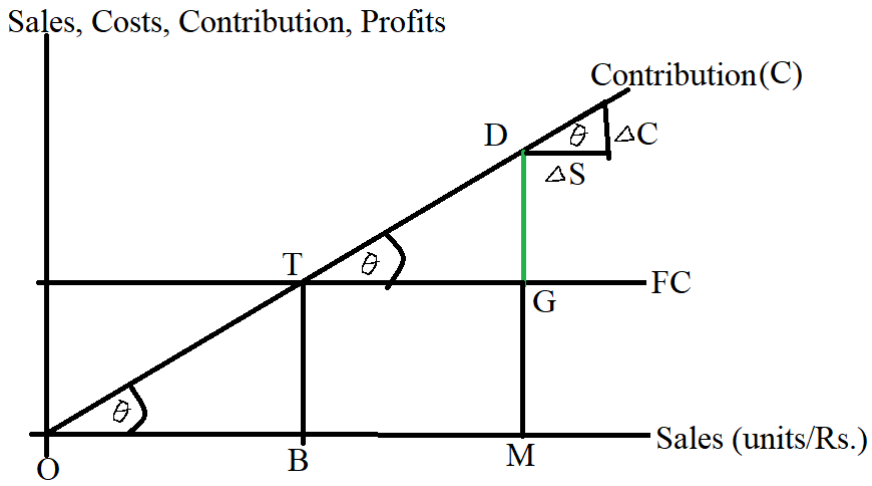
In Chart II the difference between sales and variable costs is plotted as the contribution line which is also a straight line starting from the origin having constant slope. Fixed costs line is plotted parallel to the X-axis as it remains unaffected or unchanged by the volume. BEP is the

volume at which contribution equals fixed costs. For sale less than BEP, contribution is insufficient to recover the fixed costs, resulting in a loss.

11. Margin of Safety (MOS)

The excess of sales over BEP is Margin of Safety (MOS). Contribution on BEP recovers fixed costs. For sale greater than BEP, contribution is higher than fixed cost, generating surplus accounted as profits. Contribution on MOS generates profits.

Now, we shall come to the most important discussion on C-V-P and Break-even analysis. We can apply some basic knowledge of geometry and trigonometry to understand the relationship between different variables of C-V-P. For that purpose, we draw the B-E Chart II again.



In a right-angle triangle, three sides are hypotenuse (h), perpendicular (p) and base (b). Slope of the hypotenuse = tan θ = p/b.

In the break-even chart II above, we observe three right-angle triangles ◺ ODM, ◺ OTB and ◺ TDG.
Slope of the contribution line = tan θ = p/b= P/V ratio (when sales are measured in rupees) and
Slope of the contribution line = tan θ = p/b = Contribution per unit (when sales are measured in units)

P/V ratio = DM/OM = TB/OB = DG/TG = $\frac{\triangle C/\triangle S}{} = \frac{\triangle P/\triangle S}{}$

Thus, <u>when sales, BEP, MOS and change in sales are</u> <u>measured in **rupees**</u>:

P/V ratio = Contribution/Sales = Fixed Cost/BEP = Profits/MOS = Change in contribution/Change in sales = Change in profits/Change in sales

Thus, (i) Fixed costs = P/V ratio×BEP and (ii) Profits = P/V ratio×MOS. Or,

(iii) BEP = Fixed Costs/ P/V ratio and (iv) MOS = Profits/ P/V ratio.

<u>When sales, BEP, MOS and change in sales are measured in **units**</u>:

Contribution per unit = Contribution/Sales Unit = Fixed Cost/BEP Unit = Profits/MOS Unit = Change in Contribution/Change in Sales Unit = Change in Profits/Change in Sales Unit.

Thus, (i) Fixed costs = Contribution per unit×BEP Unit and (ii) Profits = Contribution per unit ×MOS Unit. Or, (iii) BEP Unit = Fixed Costs/ Contribution per unit and (iv) MOS Unit = Profits/ Contribution per unit.

12. Illustrations on C-V-P and Break-even analysis

Illustration 1:

Data of a month	Units	Rupees
Sales	2,000	80,000
VC		56,000
FC		18,000

Find: (a) P/V ratio; (b) Contribution per unit; (c) BEP (Rs., units); (d) MOS (Rs., units); (e) Additional profits if sales increase to Rs. 1,10,000.

Solution: (amount in rupees)

Contribution = Sales – VC = 80,000 – 56,000 = 24,000;

Profits = Contribution – FC = 24,000 – 18,000 = 6,000;

(a) P/V ratio = Contribution/Sales = 24,000/80,000 = 0.3

(b) Contribution per unit= Contribution/Sales units = 24,000/2,000 = Rs. 12

(c) BEP (Rs.) = FC/P/V ratio = 18,000/0.3 = Rs. 60,000

BEP (units) = FC/ Contribution per unit = 18,000/12 = 1,500

(d) MOS (Rs.) = Profits/P/V ratio = 6000/0.3 = Rs. 20,000 Or, Sales – BEP = 80,000 – 60,000 = 20,000.

MOS (units) = Profits/ Contribution per unit = 6,000/12 = 500

(e) Increase in sales (Rs.) = 1,10,000 – 80,000 = 30,000

Additional profits (Rs.) = Additional sales × P/V ratio = 30,000×0.3 = 9,000

Illustration 2: (Rupees)

Data for the month	July	August
Sales	50,000	90,000
Profits (Loss)	(3,000)	9,000

Find: (a) P/V ratio; (b) Monthly Fixed Costs; (c) BEP; (d) MOS in the month of August; (e) Additional profits if sales increase to Rs. 1,10,000 in September.

Solution: (Rupees)

Data for the month	July	August	Change
Sales	50,000	90,000	40,000
Profits (Loss)	(3,000)	9,000	12,000

(a) P/V ratio = $\frac{\triangle P}{\triangle S}$ = 12000/40000 = 0.3

(b) For August: Contribution = Sales×P/V = 90,000×0.3 = 27,000;

FC (Rs.) = Contribution – Profits = 27,000 – 9,000 = 18,000

(c) BEP (Rs.) = FC/P/V ratio = 18,000/0.3 = 60,000;

(d) MOS (Rs.) = Sales – BEP = 90,000 – 60,000= 30,000 Or, Profits/P/V ratio = 9,000/0.3 = 30,000;

(e) Additional profits in September = Additional sales × P/V = (1,10,000 – 90,000) ×0.3 = Rs. 6,000

Illustration 3:

Data for the month	July	August
Sales (units)	5,000	8,000
Profits (Loss) per unit(Rupees)	(0.8)	1

Find: (a) Contribution per unit; (b) Monthly Fixed Costs; (c) BEP (units); (d) MOS (units) in the month of August; (e) Additional profits if sales increase to 11,000 units in September.

Solution:

Data for the month	July	August	Change
Sales (units)	5,000	8,000	3,000
Profits (Loss) per unit(Rupees)	(0.8)	1	
Profits (Loss) (Rupees) =	(4,000)	8,000	12,000

(a) Contribution per unit = $\frac{\triangle P}{\triangle S}$ = 12,000/3,000 = Rs. 4

(b) For August: Contribution = Sales × Contribution per unit = 8,000×4 = 32,000;

FC (Rs.) = Contribution – Profits = 32,000 – 8,000 = 24,000.

(c) BEP (units) = FC/ Contribution per unit = 24,000/4 = 6,000;

(d) MOS (units) = Sales – BEP = 8,000 – 6,000 = 2,000 Or, Profits/ Contribution per unit = 8,000/4 = 2,000;

(e) Additional profits in September = Additional sales × Contribution per unit = (11,000 – 8,000) ×4 = Rs. 12,000

Illustration 4:

If MOS is 20% and P/V ratio is 30%, Find profits and BEP when FC is Rs. 24,000.

Solution:

BEP = FC/P/V ratio = 24,000/0.3 = Rs.80,000.

If MOS is 20%, BEP will be 80%. [100 – 20]

MOS Rs. = (MOS%/BEP%) ×BEP Rs. = (20%/80%)× 80,000 = Rs. 20,000

Profits = MOS×P/V ratio = 20,000×0.3 = Rs. 6,000.

Illustration 5:

If at BEP, FC per unit = Rs. 8 and at a sale of 4,000 units in a month there is loss of Rs. ~~Rs~~. 8,000, Find: (a) FC; (b) BEP; (c) units of sale required to earn a profit of Rs. 8,000.

Solution:

At BEP, FC = Contribution. Hence, at BEP, FC per unit = Contribution per unit = Rs. 8.

Contribution per unitis constant at any level of output = Rs. 8.

Contribution on 4,000 units = 8×4,000 = Rs. 32,000.

(a) FC = Contribution + Loss = 32,000 + 8000 = Rs. 40,000

(b) BEP = FC/ Contribution per unit = 40,000/8 = 5,000 units.

(c) Required profits = Rs. 8,000;

Required Contribution = FC + Profits = 40,000 + 8,000 = Rs. 48,000;

Required sales in units = Required Contribution/ Contribution per unit = 48,000/8 = 6,000.

Illustration 6: If MOS is 25% and Fixed Costs are Rs. 45,000, find profits.

Solution:

We know: P/V ratio = Contribution/Sales = Fixed Cost/BEP = Profits/MOS

Thus, we see: FC/BEP = Profits/MOS

Or, Profits = (FC/BEP) ×MOS

Or, Profits = (MOS/BEP) ×FC

Or, Profits = (25%/75%) ×45,000 [Since, BEP% + MOS% = 100% (Total Sales)]

Or, Profits = Rs. 15,000

Illustration 7: If BEP is 80% and Profits are Rs. 16,000, find Fixed Costs.

Solution:

P/V ratio = FC/BEP = Profits/MOS

Or, FC = (Profits/MOS) ×BEP

Or, FC = (BEP/MOS) ×Profits

Or, FC = (80%/20%) ×16,000 = Rs. 64,000

Illustration 8: If sales are Rs. 96,000, P/V ratio is 30% and Profits are 12% of sales, Find FC, BEP, MOS and Profits.

Solution:

Contribution (Rs.) = P/V ratio × Sales = 0.3 × 96,000 = 28,800

Profits (Rs.) = Sales×12% = 11,520

FC = Contribution – Profits = 28,800 – 11,520 = Rs. 17,280

BEP (Rs.) = FC/P/V ratio = 17,280/0.3 = 57,600

MOS (Rs.) = Sales – BEP = 96,000 – 57,600 = 38,400.

13. Managerial Applications of Marginal Costing

Marginal costing technique is applied in several managerial decision-making including export order pricing, product mix in context of limited resources, make or buy and shut down or continue.

13.a. Export order pricing

Illustration 9:

If markets are so separated that a different price may be charged in a new market, marginal costing may be applied for pricing decision.

A firm sells 20,000 units a year in domestic market at Rs. 1,200 per unit at a profit of Rs. 200 per unit. It has annual production capacity of 36,000 units at the existing fixed cost of Rs. 80,00,000. For production over 36,000 units and up to 50,000 units a year, additional fixed costs would amount to Rs. 18,00,000. For export, there will be additional variable cost per unit of Rs. 200. Three indivisible export orders were received from three different markets:

(i) Export order A: 10,000 units at a price of Rs. 1,000 per unit.

(ii) Export order B: 22,000 units at a price of Rs. 980 per unit.

(iii) Export order C: 35,000 units at a price of Rs. 950 per unit.

Advise the firm in choice of the available options:

(a) Accept order A

(b) Accept order B

(c) Accept order C and reduce domestic units.

(d) Accept order A and B and reduce domestic units.

Solution:

Working Note 1:

	Rs.
Selling price per unit (SP)	1,200
Total Cost per unit (TC) = SP – Profits per unit	1,000
TC for 20,000 units in domestic market	2,00,00,000
Fixed costs (FC)	80,00,000
VC = Total costs - FC	1,20,00,000
VC per unit = 1,20,00,000/20,000	600
Contribution per unit in domestic market	600
Addl. VC per unit for export orders	200
VC per unit for export order (600+200)	800
Profit from domestic market = 600×20,000 – 80,00,000	40,00,000

Working Note 2:

Options	**(a)**	**(b)**	**(c)**	**(d)**
Export orders	**A**	**B**	**C**	**A + B**
Export units	10,000	22,000	35,000	32,000
Domestic + export units	20000+10000 =30000	20000+220000 = 42000	20000+35000 = 55000	20000+32000 = 52000
Total Units (restricted to max. 50,000 units)	30,000	42,000	50,000	50,000
Reduction in domestic units			(5,000)	(2,000)
Export Price (Rs.)	1,000	980	950	
VC for export(Rs.)	800	800	800	
Contribution per unit of export (Rs.)	200	180	150	
Export Contribution (Rs.)	20,00,000	39,60,000	52,50,000	59,60,000
Additional FC when output exceeds 36,000 units (Rs.)	0	(18,00,000)	(18,00,000)	(18,00,000)
Loss of contribution for reduction in domestic market @ Rs. 600 per unit (Rs.)			(30,00,000)	(12,00,000)
Additional Profits(Rs.)	20,00,000	21,60,000	4,50,000	29,60,000
Rank in order of preference	**3**	**2**	**4**	**1**

Thus, option (d) is the optimal choice for securing highest additional profits. The firm will accept both export orders A and B and reduce domestic sale by 2,000 units and make additional profits of Rs. 29,60,000.Thus, total profits = Rs. (40,00,000 + 29,60,000) = Rs.69,60,000.

13.b. Product mix based on contribution per unit of limiting factor

Illustration 10:

Firm Z produces three products: A, B and C. The following data are provided for the month of June 20X1.

Products	A	B	C	Total
SP Rs.	50	80	100	
VC per unit Rs.	20	60	50	
FC Rs.				12,00,000
Max. Demand (units)	20,000	30,000	25,000	
Minimum Production (units)	5,000	5,000	5,000	
(a) Production capacity (units)				42,000
Labour hour per unit (hours)	10	5	10	
(b) Available Labour hours (hours)				3,50,000

Find the optimal product mix and profits for:

(a) Limited production capacity and

(b) Limited labour hours.

(c) Should Z go for 8,000 overtime labour hours available at overtime premium of Rs. 1.2 per hour?

Solution:

(a) Optimal Product Mix and Profits for Limited Production Capacity

Products	A	B	C	Total
SP Rs.	50	80	100	
VC per unit Rs.	20	60	50	
Contribution per unit Rs.	30	20	50	
Max. Demand (units)	20,000	30,000	25,000	
Minimum production	5,000	5,000	5,000	15,000
(a) Production capacity (units)				42,000
Rank based on contribution per unit	2	3	1	
Max. demand less Min. production (units)	15,000	25,000	20,000	
Max. capacity less Min. production (units)				27,000
Max allotted to Rank 1 (units)			20,000	
Next to Rank 2 (units) (27000 - 20000)	7,000			
Nil to Rank 3		0		
Product Mix (Units) [min. production + allotted further]	12,000	5,000	25,000	42,000
Contribution (Rs.)	3,60,000	1,00,000	12,50,000	17,10,000
FC (Rs.)				12,00,000
Profits (Rs.)				5,10,000

(b) Optimal Product Mix and Profits for Limited Labour Hours

Products	A	B	C	Total
Limited labour hours				3,50,000
Labour hour per unit (hours)	10	5	10	
Contribution per unit (Rs.)	30	20	50	
Contribution per hour (Rs.) = Contribution per unit/labour hour per unit	3	4	5	
Rank based on contribution per hour	3	2	1	
Minimum production	5,000	5,000	5,000	
Hours consumed for min. prod.	50,000	25,000	50,000	1,25,000
Balance capacity (hours)				2,25,000
Max to Rank 1 (units)			20,000	
Max to Rank 1 (hours)			2,00,000	
Next to Rank 2 (hours) = 225000 - 200000		25,000		
Next to Rank 2 (units) (25000/5)		5,000		
Nil to Rank 3 (units)	0			
Product Mix (Units)	5,000	10,000	25,000	40,000
Contribution (Rs.)	1,50,000	2,00,000	12,50,000	16,00,000
FC (Rs.)				12,00,000
Profits (Rs.)				4,00,000

(c) Overtime hours will be applied to Ranked 2 Product B yielding a net contribution per hour = Rs. 4 less OT Premium Rs. 1.2 = Rs. 2.8. Additional contribution = 2.8×8,000 = Rs. 22,400. Additional units of B = 8,000/5 = 1,600.

Product Mix (Units)	5,000	10,000 + 1,600	25,000	41,600
Contribution (Rs.)	1,50,000	2,00,000 + 22,400	12,50,000	16,22,400
FC (Rs.)				12,00,000
Profits (Rs.)				4,22,400

13.c. Make or Buy of certain component:

Illustration 11:

Purchase price of the component = Rs. 50

VC for manufacturing the component = Rs. 32

FC for manufacturing the component = Rs. 90,000

Required no of components = (a) 8,000; (b) 4,000.

(i) Should you Buy or Make

(ii) What is the Indifference or Break-Even Point?

Solution:

Contribution for manufacturing the component per unit = 50 – 32 = 18

(a) Total contribution = 8,000*18 = 1,44,000; (b) 72,000

FC = 90,000

(ii) BEP or Indifference Point = FC/Cpu = 90,000/18 = 5,000 units (Make and Buy both are equally preferred)

If requirement > BEP, Make, requirement < BEP, Buy

Units	8,000	4,000
Contribution	1,44,000	72,000
FC	90,000	90,000
Profits/(Loss)	54,000	(18,000)
Recommend	Make	Buy

Hence, Make recommended for 8,000 units and Buy recommended for 4,000 units.

Illustration 12:

Purchase price of the component = Rs. 80

VC for manufacturing the component = Rs. 50

Additional FC will be incurred for manufacturing the component = Rs. 1,20,000 pm

Annual requirement of the component = 72,000 units.

(i) Should you Buy or Make

(ii) What is the Indifference Point?

Solution:

	Per Month	Per Annum
Purchase Price pu Rs.	80	80
VC for manufacturing the component Rs.	50	50
Contribution pu Rs.	30	30

Total units pm = 72000/12 Annual	6,000	72,000
Total Contribution for Make pm/ pa	1,80,000	21,60,000
FC pm/pa	1,20,000	14,40,000
Profit pm/pa	60,000	7,20,000
(i) Decision	Make	Make
(ii) Indifference Point = FC/CPU	4,000 pm	48,000 pa

13.d. Shut down or Continue Decision

FC has two components: Avoidable FC (you can avoid if you stop making) and Unavoidable FC (it continues even if production is stopped).

Shutdown point is the level of output at which contribution earned by production is just sufficient to recover the Avoidable FC = Avoidable FC/ Contribution per unit.

If Demand is less than shutdown point Loss will be restricted to Unavoidable FC if production is stopped. If production is continued at demand below shutdown point, Loss = Unavoidable FC + unrecovered Avoidable FC. Hence, production should be stopped below shutdown point and production should be continued at demand equal or greater than shutdown point. So long as demand is greater than shut down point but less than BEP, there would be loss for unrecovered Unavoidable FC, but it would be less than total Unavoidable FC.

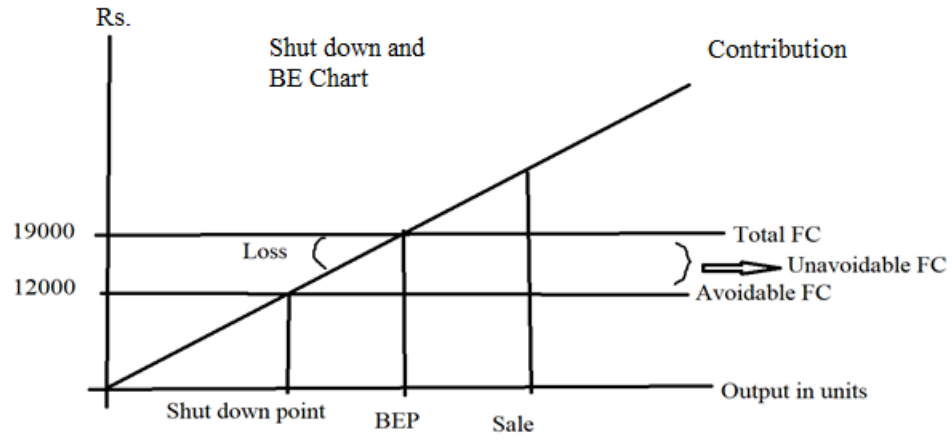


Illustration 13: (Shut down or Continue)

Demand = 8,000 units

VC = Rs. 50 pu/ Rs. 80 pu

SP = Rs. 75 pu

FC = Rs. 1,60,000/ Rs. 2,60,000

Solution:

VC	50		80	
SP	75		75	
Contribution PU	25		(5)	
Demand	8,000		8,000	
Total Contribution	2,00,000		(40,000)	
FC	1,60,000	2,60,000	1,60,000	2,60,000
Profit (Loss) for continuing	40,000	(60,000)	(2,00,000)	(3,00,000)
Profit/(Loss) for Shut down	(1,60,000)	(2,60,000)	(,160,000)	(2,60,000)
Decision	Continue	Continue*	Shut down	Shut down

* The entire FC Rs. 2,60,000 would be the Loss if production is stopped. So, it is better to continue production to earn Contribution of Rs. 2,00,000 and to reduce the Loss from Rs. 2,60,000 to Rs. 60,000 only.

Illustration 14:

Demand = 8,000 units

VC = Rs. 50 pu

SP = Rs. 75 pu

FC = Rs. 3,20,000

Avoidable FC = 1,10,000/ 2,20,000

(i) Should you continue or shut down

(ii) What is the shutdown point?

Solution:

Contribution PU Rs.	25	
Demand	8,000 units	
Total Contribution Rs.	2,00,000	
Total FC Rs.	3,20,000	
Avoidable FC Rs.	1,10,000	2,20,000
Unavoidable FC Rs.	2,10,000	1,00,000
Profit/(Loss) for continuing	(1,20,000)	(1,20,000)

Rs.		
Profit/(Loss) for Shut downRs.	(2,10,000)	(1,00,000)
(i) Decision	Continue to save Rs.90,000	Shut down to save Rs.20,000
(ii) Shut Down Point = Avoidable FC/CPU	1,10,000/25 = 4,400 units	2,20,000/25 = 8,800units
Decision based on shutdown point	Continue as Demand > = Shutdown Point	Shutdown as Demand < Shutdown Point