

COST VOLUME PROFIT ANALYSIS

FORMULA

(i) Break-Even Point (in Unit) =

- $\frac{\text{Fixed cost}}{\text{Sales per unit} - \text{Variable cost per unit}}$
- $\frac{\text{Fixed cost}}{\text{Contribution per unit}}$
- $\frac{\text{Fixed cost}}{1 - \frac{\text{Variable cost}}{\text{Sales}}}$

(ii) Break-Even Point (in Tk) =

- $\frac{\text{Fixed cost}}{\text{Sales} - \text{Variable cost}} \times \text{Sales}$
- $\frac{\text{Fixed cost}}{\text{Contribution}} \times \text{Sales}$
- $\frac{\text{Fixed cost}}{\text{P/V ratio}}$
- $\text{Sales} - \text{Margin of Safety}$

(iii) contribution =

- $\text{Sales} - \text{Variable cost}$
- $\text{Sales} \times \text{P/V ratio}$

(iv) Marginal safety =

- $\frac{\text{Profit}}{\text{Sales} - \text{Variable cost}} \times \text{Sales}$
- $\frac{\text{Profit}}{\text{Contribution}} \times \text{Sales}$
- $\frac{\text{Profit}}{\text{P/V ratio}}$
- $\text{Actual Sales} - \text{Break Even Sales}$

(V) Profit volume ratio (P/V ratio) =

(a) $\frac{\text{Sales} - \text{Variable cost}}{\text{Sales}} \times 100$

(b) $\frac{\text{Contribution}}{\text{Sales}} \times 100$

(c) $\frac{\text{Change in Profit}}{\text{Change in Sales}} \times 100$

(VI) M/S of Ratio =

(a) $\frac{\text{Actual sales} - \text{Break Even sales}}{\text{Actual sales}} \times 100$

(b) $\frac{\text{Margin of Safety}}{\text{Actual sales}} \times 100$

(VII) Turnover of desired sales on profit (in unit):

(a) $\frac{\text{Fixed cost} + \text{Desired Profit}/\text{Sales}}{\text{Sales per unit} - \text{Variable cost per unit}}$

(b) $\frac{\text{Fixed cost} + \text{Desired total sales}/\text{Profit}}{\text{Unit contribution}}$

(c)

(VIII) Turnover of desired sales on profit (in volume):

(a) $\frac{\text{Fixed cost} + \text{Desired Profit on sales}}{\text{P/V Ratio}}$

(b) $\frac{\text{Fixed cost} + \text{Desired Profit on sales}}{1 - \frac{\text{Variable cost}}{\text{Sales}}}$

(IX) Selling price calculation:

(a) Variable cost + Fixed cost + Profit or (loss)

(b) Contribution + Variable cost

(c) $\frac{\text{Fixed cost} + \text{Profit}}{\text{P/V ratio}}$

(d) $\frac{\text{contribution}}{\text{P/V ratio}}$.

(e) $\frac{\text{variable cost}}{100 - \text{P/V ratio}}$.

(x). Profit calculation :

(a) Profit' = contribution - fixed cost.

(b) Profit (%) = P/V ratio \times margin of safety ratio.

(xi) Variable cost = sales - contribution.

(xii) Variable of ratio = $\frac{\text{variable cost}}{\text{sales}} \times 100$.

(xiii) Fixed cost' = contribution - profit.

(xiv) Marginal cost equation =

sales - variable cost' = fixed cost + profit'.

A company sells 4900 units at Tk. 25 per unit. Cost of sales includes the following —

Direct materials Tk. 36,000

Direct labor Tk. 30,000

Variable overhead Tk. 29,000

Fixed overhead Tk. 18,000

(i) calculate the break-even sales in units and volume?

(ii) What would be the break-even sales if fixed cost is Tk. 20,000?

Solution: (i) calculation of total variable cost.

Direct materials Tk. 36,000

Direct labor Tk. 30,000

Variable overhead Tk. 29,000

Total variable cost = Tk. 90,000

i.e. Variable cost per unit = $\frac{90,000}{4500} = \text{Tk. } 20$.

The formula of break even sales is :

$$\begin{aligned}\text{(i) Break even sales in unit} &= \frac{\text{fixed cost}}{\text{sales per unit} - \text{variable cost per unit}} \\ &= \frac{18,000}{25 - 20} \\ &= \frac{18,000}{5} \\ &= 3600 \text{ units.}\end{aligned}$$

Revised

Break-even sales in volume

$$\begin{aligned}&= \frac{\text{Fixed cost}}{(\text{Sales per unit} - \text{Variable cost per unit})} \times \text{Sales per unit} \\ &= \frac{18,000}{25 - 20} \times 25 \\ &= \frac{18,000}{5} \times 25 \\ &= \text{Tk. } 90,000\end{aligned}$$

Rev-v)

Break Even sales in case of fixed cost 20,000

$$= \frac{\text{Fixed cost}}{\text{Sales per unit} - \text{Variable per unit}} \times \text{Sales per unit}$$

$$= \frac{20,000}{25 - 20} \times 25$$

$$= \frac{20,000}{5} \times 25$$

$$= \text{Tk. } 1,00,000$$

Q. 2. From the following information, calculate P/V ratio, break even point and margin of safety:

fixed cost Tk. 50,000
variable cost Tk. 220,000
sales Tk. 3,30,000

$$\text{P/V} = \frac{\text{Contribution}}{\text{Sales}}$$

$$\text{Contribution} = \text{Sales} - \text{Variable cost}$$

$$C = \text{Fixed cost} + \text{Profit}$$

$$\text{P/V ratio} = \frac{\text{Sales} - \text{Variable cost}}{\text{Sales}}$$

You are also required to ascertain the effect of the following

- 10% increase in fixed cost.
- 20% decrease in variable cost.
- 10% increase in selling price.
- 10% increase in selling price and 5% decrease in variable cost.

Solution:

$$\text{Profit/Volturnratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

Contribution: Sales - Variable cost,

$$= \text{Tk. } 3,30,000 - 2,20,000$$

$$= \text{Tk. } 110,000$$

$$\text{P/V ratio} = \frac{110,000}{3,30,000} \times 100$$

$$= 33.33\%$$

$$\begin{aligned}
 \text{break even point (in Tk)} &= \frac{\text{Fixed cost}}{\text{Extra - variable cost}} \times \text{Sales} \quad / \quad \left[\begin{array}{l} \text{extra} \\ \text{fixed cost} \\ \hline \text{P/V ratio} \end{array} \right] \\
 &= \frac{\text{Fixed cost}}{\text{P/V ratio}} \\
 &= \frac{50,000}{33.33\%} \\
 &\approx \text{Tk. } 150,015
 \end{aligned}$$

$$\begin{aligned}
 \text{Margin of safety} &= \text{Actual sales} - \text{Break-even point sales} \\
 &= \text{Tk. } 330,000 - 150,015 \\
 &\Rightarrow \text{Tk. } 179,985
 \end{aligned}$$

Rev-A

If fixed cost increased by 10%, P/V ratio, Break-even point & Margin of safety will be as follows.

$$\begin{aligned}
 \text{Increased 10% of fixed cost} &= 50,000 \times 10\% \\
 &= 5,000
 \end{aligned}$$

$$\begin{aligned}
 \therefore \text{New fixed cost} &= \text{Tk. } 50,000 + 5,000 \\
 &= \text{Tk. } 55,000
 \end{aligned}$$

$$\text{P/V ratio} = \frac{\text{Contribution margin}}{\text{Sales}} \times 100$$

$$\begin{aligned}
 \therefore \text{Contribution margin} &= \text{Sales} - \text{variable cost} \\
 &= \text{Tk. } 330,000 - 220,000 \\
 &= 110,000
 \end{aligned}$$

$$\begin{aligned}
 \therefore \text{P/V ratio} &= \frac{110,000}{330,000} \times 100 \\
 &= 33.33\%
 \end{aligned}$$

$$\begin{aligned}
 \text{Break even sales (in Tk)} &= \frac{\text{Fixed cost}}{\text{P/V ratio}} \\
 &= \frac{55,000}{33.33\%} \\
 &= \text{Tk. } 1,65,016.50
 \end{aligned}$$

$$\begin{aligned}
 \text{Margin of safety} &= \text{Actual sales} - \text{Break even sales} \\
 &= \text{Tk. } 3,00,000 - 165,016.50 \\
 &= \text{Tk. } 1,34,983.50
 \end{aligned}$$

Ques-b

If each variable cost decrease 20%, P/V ratio, Break even point & margin of safety will be as follows —

$$\begin{aligned}
 \text{Decreased 20% variable cost} &= 220,000 \times 20\% \\
 &= 44,000
 \end{aligned}$$

$$\begin{aligned}
 \text{New variable cost} &= 220,000 - 44,000 \\
 &= \text{Tk. } 176,000
 \end{aligned}$$

$$\text{P/V ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$\begin{aligned}
 \text{Contribution} &= \text{Sales} - \text{variable cost} \\
 &= \text{Tk. } 3,00,000 - \text{Tk. } 176,000 \\
 &= \text{Tk. } 1,24,000
 \end{aligned}$$

$$\begin{aligned}
 \text{P/V ratio} &\rightarrow \frac{1,24,000}{3,00,000} \times 100 \\
 &= 41.33\%
 \end{aligned}$$

$$\text{Break-even sales} \rightarrow \frac{\text{Fixed cost}}{\text{P/V ratio}} \\ = \frac{50,000}{46.67\%}$$

$$= \text{Tk. } 1,071,351.20.$$

$$\text{Margin of safety} = \text{Actual sales} - \text{Break-even sales} \\ = \text{Tk. } 3,30,000 - 1,071,351.20 \\ = \text{Tk. } 2,22,868.80$$

REASON

If selling price increase 10%, then P/V ratio, Break-even sales & margin of safety will be reduced as follows —

$$\text{P/V ratio} = \frac{\text{Contribution}}{\text{Sales} - \text{Variable cost}}$$

$$\therefore 10\% \text{ increase in selling price} \\ = 3,30,000 \times 10\% \\ = 33,000$$

$$\therefore \text{Selling price} = \text{Tk. } 3,30,000 + 33,000 \\ = \text{Tk. } 3,63,000$$

NOTE

$$\text{P/V ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$\therefore \text{Contribution} = \text{Sales} - \text{Variable cost} \\ = 3,30,000 - 220,000 \\ = \text{Tk. } 1,10,000$$

$$\therefore P/V \text{ ratio} = \frac{193,000}{363,000} \times 100 \\ = 39.39\%$$

$$\text{Break-even sales in PK} = \frac{\text{fixed amt}}{P/V \text{ ratio}} \\ = \frac{50000}{39.39\%}$$

$$= \text{PK. } 126,935.77$$

$$\text{margin of safety} = \text{actual sales} - \text{break-even sales} \\ = \text{PK. } 363,000 - 126,935.77 \\ = \text{PK. } 236,064.23$$

Result

If 10% increase in selling price & 5% increase in variable cost, then P/V ratio, break-even sales & margin of safety will be as under as follows.

$$10\% \text{ increase in selling price} = 330,000 \times 10\% \\ = 33,000$$

$$\therefore \text{selling price} = 330,000 + 33,000 \\ = \text{PK. } 363,000$$

$$5\% \text{ decrease in variable cost} = 229,000 \times 5\% \\ = 11,450$$

$$\therefore \text{variable cost} = 229,000 - 11,450 \\ = \text{PK. } 217,550$$

$$= \text{PK. } 2,09,550$$

$$P/V \text{ ratio} = \frac{\text{Contribution}}{\text{Sales - Cost}} \times 100$$

i. Contribution = Sales - Variable cost

$$= 363,000 - 269,000$$

$$= \text{Tk. } 154,000$$

$$\therefore P/V \text{ ratio} = \frac{154,000}{363,000} \times 100$$

$$= 42.42\%$$

$$\text{Break even sales (in Tk)} = \frac{\text{Fixed cost}}{P/V \text{ ratio}}$$

$$= \frac{50,000}{42.42\%}$$

$$= \text{Tk. } 117,868.93$$

ii. Margin of safety = Actual sales - Break even sales

$$= 363,000 - 117,868.93$$

$$= \text{Tk. } 245,131.07.$$

The following information is obtained from the cost records of a manufacturing company:

Sales — Tk. 2,10,000

M/V — 30%

P/V — 40%.

Required

- Break even sales,
- Break even sales if the P/V ratio is reduced to 30%,
- M/V if P/V ratio is 35%,
- Sales volumes if profit increased by Tk. 900.

Solution:

Ques (a) Break even sales = $\frac{\text{Fixed cost}}{\text{P/V ratio}}$

$$\text{Fixed cost} = \text{Contribution} - \text{Profit}$$

$$\text{Contribution} = \text{Sales} \times \text{P/V ratio},$$

$$= 2,10,000 \times 40\%$$

$$= \text{Tk. } 84,000$$

$$\text{Profit} (\%) = \text{Margin of safety} \times \text{P/V ratio}$$

$$= 30\% \times 40\%$$

$$= 12\%$$

$$\therefore \text{Profit} = 12\% \text{ of } 2,10,000$$

$$= \text{Tk. } 25,200$$

$$\text{Fixed cost} = 84,000 - 25,200 = \text{Tk. } 58,800$$

$$\therefore \text{Break even sales} = \frac{\text{Fixed cost}}{\text{P/V ratio}}$$

$$= \frac{58,800}{40\%}$$

$$= \text{Tk. } 1,47,000$$

Rev-B

$$\text{Break even sales} = \frac{\text{Fixed cost}}{\text{P/V ratio}}$$

$$= \frac{67,200}{30\%}$$

$$= \text{Tk. } 224,000.$$

Rev-C

If P/V ratio is 35%, then margin of safety —

$$\text{M/S} = \text{actual sales} - \text{break even sales}$$

$$\therefore \text{break even sales} = \frac{\text{Fixed cost}}{\text{P/V ratio}}$$

$$= \frac{67,200}{35\%}$$

$$= \text{Tk. } 192,000$$

$$\text{margin of safety} = 240,000 - 192,000$$

$$= \text{Tk. } 48,000.$$

Rev-d sales volume if profit is increased by Tk. 4000.

New total profit will be Tk. 28,800 + 4000

$$= 32,800.$$

$$\text{break even sales} = \frac{\text{Fixed cost} + \text{Required profit}}{\text{P/V ratio}}$$

$$= \frac{67,200 + 32,800}{40\%}$$

$$\therefore \text{The volume of sales} = 250,000$$

Profit increased by Tk. 4000, then
sales will be Tk. 250,000.

The following information obtained from the cost records of a manufacturing company :

Sales	TK. 290000
Margin of safety	30%
Profit volume ratio	40%

Required :

- a) Break even sales.
- b) Break even sales if the P/V ratio is reduced to 35%.
- c) Margin of safety if P/V ratio is 35%.
- d) Sales volume if profit is increased by Tk. 9000.

Solution: We know that:-

$$a) \text{Break even sales (in Tk)} = \frac{\text{Fixed cost}}{\text{P/V ratio}}$$

Fixed cost = contribution - profit

$$\begin{aligned} \text{contribution} &= \text{P/V ratio} \times \text{Sales} \\ &= 40\% \times 2,90,000 \\ &= \text{Tk. } 96,000 \end{aligned}$$

$$\begin{aligned} \text{Profit (\%)} &= \text{P/V ratio} \times \text{margin of safety} \\ &= 40\% \times 30\% \\ &= 12\% \end{aligned}$$

$$\begin{aligned} \text{Profit} &= 12\% \text{ of sales} \text{ Tk. } 2,90,000 \\ &\approx \text{Tk. } 28,800 \end{aligned}$$

$$\therefore \text{Fixed cost} = \text{Tk. } 96,000 - \text{Tk. } 28,800 \\ \approx \text{Tk. } 67,200$$

$$\therefore \text{Break even sales (in Tk)} = \frac{67,200}{40\%} \\ \approx \text{Tk. } 1,68,000$$

b) Break even sales = $\frac{\text{Fixed cost}}{\text{P/V ratio}}$

$$= \frac{67,200}{30\%}$$

$$= 2,21,000$$

c) Margin of safety = Actual sales - Break even sales

$$= 2,70,000 - 192,000$$

Break even sales = $\frac{\text{Fixed cost}}{\text{P/V ratio}} = \text{Tk. } 18,000$

$$= \frac{67,200}{35\%}$$

$$= 1,92,000$$

d) Now profit will be $(24,800 + 4000) = \text{Tk. } 28,800$.

We know that —

Sales volume = $\frac{\text{Fixed cost} + \text{Desired profit}}{\text{P/V ratio}}$

$$= \frac{67,200 + 28,800}{30\%}$$

$$= 3,20,000$$

$$= \text{Tk. } 2,50,000$$

A summarized income statement of a company for two years are given below—

	<u>1989</u>	<u>1990</u>
Sales	Tk. 12,00,000	Tk. 16,00,000
Cost of sales	Tk. 10,80,000	Tk. 13,60,000
Profit	<u>Tk. 120,000</u>	<u>Tk. 2,40,000</u>

* The net of sales includes depreciation of Tk. 60,000. There were no opening and closing inventories.

Required:

- Ascertain the fixed cost.
- Calculate break even cost.
- Calculate the sales volume, if the company wants to earn after tax of Tk. 240,000. The tax rate is 40%.

Solution: We know that

Fixed cost = contribution - Profit.

$$\therefore \text{Tk. } 14,60,000 - 120,000$$

$$= \text{Tk. } 2,40,000.$$

Contribution = P/V ratio \times sales.

∴

$$\text{P/V ratio} = \frac{\text{Change in profit}}{\text{Change in sales}}$$

$$= \frac{120,000}{400,000}$$

$$= 30\%.$$

$$\therefore \text{Contribution} = 30\% \times 12,00,000$$

$$= 3,60,000$$

$$\therefore \text{Fixed cost} = 3,60,000 - 120,000$$

$$= \text{Tk. } 2,40,000.$$

$$\begin{aligned}
 \text{e) Break even sales} &= \frac{\text{Fixed cost}}{\text{P/V ratio}} \\
 &= \frac{2,90,000}{30\%} \\
 &= \text{Tk. } 8,00,000
 \end{aligned}$$

c) Sales volume if the company wants to earn after tax profit Tk. 2,10,000

$$\begin{aligned}
 \text{Fixed cost} + \frac{\text{After tax profit}}{1 - \text{Tax rate}} \\
 &\quad \xrightarrow{\text{P/V ratio}} \\
 = & \frac{2,90,000 + \frac{2,90,000}{1 - 70\%}}{30\%} \\
 = & \frac{2,90,000 + \frac{2,90,000}{160}}{30\%} \\
 = & \frac{640,000}{30\%} \\
 = & \text{Tk. } 21,33,333.33
 \end{aligned}$$

P3-5

The following information is available for the half year ended
30th June

Sales	12,00,000
Fixed cost	300,000
P/V ratio	70%

During the second half of the year, the company incurred losses of Tk. 20,000. The fixed cost and P/V ratio during the second half remained unchanged.

Calculate the following —

- Break even sales and the profit for the first half of the year.
- Sales in the 2nd half of the year.
- Break even sales & margin of safety for the whole year.

Ques:

$$i) \text{ Break even sales} = \frac{\text{fixed cost}}{P/V \text{ ratio}}$$

$$= \frac{300,000}{40\%}$$

$$= \text{Tk. } 750,000.$$

Profit first half year

$$\text{Profit} = \text{Contribution} - \text{Fixed cost}$$

$$\text{Contribution} = P/V \text{ ratio} \times \text{Sales}$$

$$= 40\% \times 12,00,000$$

$$= \text{Tk. } 4,80,000$$

$$\therefore \text{Profit} = \text{Tk. } 4,80,000 - 300,000$$

$$= \text{Tk. } 1,80,000$$

ii) Break even

(ii) Sales for the 2nd half year —

$$= \frac{\text{Fixed cost} + \text{Profit (loss)}}{P/V \text{ ratio}}$$

$$= \frac{300,000 + 20,000}{40\%}$$

$$= \frac{320,000}{40\%}$$

$$= \text{Tk. } 800,000,$$

(iii) Break even sales for the whole year.

$$\frac{\text{Fixed cost}}{P/V \text{ ratio}} = \frac{300,000 + 300,000}{40\%}$$

$$= \text{Tk. } 1500,000$$

$$\text{Margin of Safety} = \frac{\text{Profit}}{\text{P/V ratio}}$$

$$= \frac{120,000 - 20,000}{10\%}$$

$$= \text{Rs. } 1,00,000.$$

From the following figures for profit and sales are obtained from the accounts of a firm on H.A.

Year	Sales	Profit (Rs.)
1990	Rs. 50,000	Rs. 10,000
1991	Rs. 60,000	Rs. 12,000

- Calculate
- (i) P/V ratio,
 - (ii) Fixed cost,
 - (iii) Break-even sales,
 - (iv) Profit at sales Rs. 40,000,
 - (v) Sales to earn profit Rs. 20,000.

Solution:

$$\text{Given, (i) P/V ratio} = \frac{\text{Change in Profit}}{\text{Change in Sales}} \times 100$$

$$= \frac{2000}{10,000} \times 100$$

$$= 20\%$$

Now we know that

Fixed cost = Withdrawal + Profit

Contribution = P/V ratio X Sales

$$= 20\% \times 40,000$$

$$= 8000$$

∴ Fixed cost = Withdrawal + Profit

$$= 8000 + 2000$$

$$= 2800$$

$$\text{Break even sales} = \frac{\text{Fixed cost}}{\text{P/V ratio}}$$

$$= \frac{2000}{20\%}$$

$$= 10000$$

Result Profit at sales of Tk. 10,000.

Contribution = sales x P/V ratio

$$= 20000 \times 20\%$$

$$= 4000$$

Profit = Contribution - Fixed

Profit = 4000 - 2000

$$= 11,000$$

Ques 3

Sales to cover profit Tk. 866000.

Fixed cost + Required profit

$$\frac{\text{P/V ratio}}{20\%}$$

$$20000 + 866000$$

$$20\%$$

$$866000$$

$$20\%$$

$$43300$$

Tk. 43300

Moon Ltd. produces sanitary fittings and sells the products' within the company. During the year 1995, sales amount to Rs. 21,00,000. P/E ratio and M/P ratio are 20% and 30% respectively. For 1996, the company wants to increase the profit by Rs. 2,00,000. Find out with retain same P/E ratio with increasing to be 10% and to change in the selling price as the variable cost.

Solution:

- (1) Break even sales for 1995 and 1996.
- (2) Profit for 1995 and total sales in 1996.
- (3) Margin of safety in 1996.

Solution:

Ques:- Break even sales in 1995 = $\frac{\text{Fixed cost}}{\text{P/E ratio}}$.

Fixed cost = contribution - profit;

Contribution = Sales $\times \frac{P}{M}$ ratio

$$\approx 21,00,000 \times 30\%$$

$$\approx \text{Rs. } 6,30,000.$$

(Q) Profit % of sales = $\frac{\text{P/E ratio} \times M/P}{1 + \frac{\text{P/E ratio}}{M/P}}$

$$= \frac{20\% \times 30\%}{1 + \frac{20\%}{30\%}}$$

$$= 7.5\%$$

Profit = 7.5% of Rs. 21,00,000

$$\approx \text{Rs. } 1,57,500.$$

∴ Fixed cost = 6,30,000 + 1,57,500

$$\approx \text{Rs. } 7,87,500.$$

∴ Break even sales = $\frac{7,87,500}{10\%}$

$$\approx \text{Rs. } 11,87,500.$$

Break even sales
in 1996 = $\frac{\text{Fixed cost}}{\text{P/E ratio}}$

$$= \frac{472,500}{30\%}$$

$$\approx 15,75,000$$

Ans 2

• Total sales in 1996 = $\frac{1}{2}$ fixed cost + $\frac{1}{2}$ profit
 $= \frac{1}{2} 772,000 + \frac{1}{2} 30,000$
 $= 386,000 + 15,000$
 $= Tk. 391,000.$

Ru - Profit in 1995 = Tk. 187,500.

Profit in 1996 = Total sales - Total expenses
 $= Tk. 391,000 - Tk. 311,250$
 $= Tk. 79,750$

Ques East India company is currently working at 50% capacity and produces 1000 units. At 60% working capacity, total variable cost increases by 2% and selling price falls 2%. At 50% working capacity, raw material cost increases by 6% and selling price falls by 6%. At 50% capacity working, the product cost Tk. 180 per unit & if sold Tk. 200 per unit the unit cost of Tk. 180 is made up as follows —

Material	Tk. 110
Wages	Tk. 30
R/P	Tk. 30 (90% fixed)

Administrative exp Tk. 20 (30% fixed)

Prepare — Management marginal cost statement showing the estimated abs. numbers, when it is operated at 60% and 80% capacity.

East Indian Company
Bengal Unit statement

Particulars	100% capacity 10,000	50% capacity 5,000	25% capacity 1,500	100% capacity 10,000
	Quantity	Rate	Rate	Quantity
(a) Sales	200	20,00,000	100	20,00,000
Material cost	100	10,00,000	50	10,00,000
Labour cost	20	2,00,000	10	2,00,000
Variable administrative overhead	10	100,000	5	100,000
Variable administrative overhead	10	100,000	5	100,000
(b) Total variable cost	150	15,00,000	75	15,00,000
(c) Contribution (Sales)	42	4,20,000	21	2,10,000
(d) Fixed cost:				
Fixed factory rent	12	12,000	6	12,000
Fixed administrative overhead	10	100,000	50,000	100,000
(e) Total unit fixed cost	22	22,000	11	22,000
(f) Profit	20	2,00,000	10,000	2,00,000

Nature of cost behaviour

Fixed cost per unit is variable but total fixed cost is fixed.
On the other hand, variable cost per unit is fixed but total cost is variable.