

Marginal Cost

Definition:

According to I.C.M.A England marginal cost is a amount at any given value of output by which aggregate costs of changed. If the value of output increase or decrease 1 units.

Features of Marginal cost:-

⇒ All cost of classified into fixed and variables.

⇒ cost of production rent.

⇒ working process value. Marginal

cost only.

⇒ contribution earned the period

⇒ difference between selling price

and variable cost

Merits:

=> classify to fixed

=> All values of output proportional value

=> selling prices constant

=> general price value.

=> Factors affective the cost and

unsold stock.

=> sales remain stock.

=> Long time planning growth.

=> various profit land.

=> Direct material, Direct labour,

fixed and variable overheads

=> operating efficiency.

FORMULA:-

1) contribution = sales - variable cost

2) contribution = fixed cost + profit.

Sales

(-) Marginal cost

Direct material

Direct labour.

Variable overhead

contribution

(-) Fixed cost

Profit

Particular
 Variable cost per unit
 Fixed Expenses
 selling price per unit

ANSWER:- 1

Marginal cost statement

| Particular | Rs. |
|--------------------|--------------|
| Sales | |
| Less variable cost | |
| D. M | 4,500 |
| D. K | 2,500 |
| F. D. H | <u>1,500</u> |
| (-) Fixed cost | |
| | Profit |

ANSWER:- 2.

Marginal cost statement

| Particular | Rs. |
|--------------------|-------------------------------------------------|
| Sales | |
| Less variable cost | |
| D. M | 80,000 |
| D. L | 50,000 |
| F. D. H | 20,000 |
| (-) Fixed cost | |
| | $\left[1,00,000 \times \frac{40}{100} \right]$ |

Merits:-

⇒ Decision, licensing, accepting, foreign

order,

⇒ combine with standard costing

⇒ more control effect.

⇒ Proper apportionment fixed cost.

⇒ Recovery of overheads

⇒ Different product with manufactures

Demerits:-

⇒ separate fixed and variable cost

⇒ semi-variable cost.

⇒ Long run production.

⇒ Comparison fixed and variable

⇒ Estimation marginal costing

⇒ Work in progress.

⇒ Techniques are not require.

Break even analysis:-

⇒ study of cost value profit relations

Sum:- 4

calculate Break-even point from the following

| Particulars | Rs. |
|------------------------|----------|
| Fixed Expenses | 1,50,000 |
| Variable cost per unit | 10 |
| Selling price per unit | 15 |

Sum:- 5

calculate Break-Even point

| Particulars | Rs. |
|-------------------------|----------|
| Sales | 6,00,000 |
| Fixed Expenses | 1,50,000 |
| Variable cost:- | |
| Direct Material | 2,00,000 |
| Direct Labour | 1,20,000 |
| Other variable Expenses | 80,000 |

Sum:- 6

The following information are given for two companies.

| Particulars | x Ltd | y Ltd |
|-------------------------|----------|----------|
| Units produced and sold | 17,000 | 17,000 |
| Revenue | 1,70,000 | 1,70,000 |
| Fixed costs | 85,000 | 34,000 |
| Operating income | 51,000 | 51,000 |
| variable cost | 34,000 | 85,000 |

Find out the Break - Even point of each company both in units as well as in volume

sum:- 7

| Particular | Rs. |
|-----------------------------|-------------|
| Fixed cost | 8,000 |
| Break even sales (in units) | 4,000 |
| sales | 7,000 units |
| selling price per unit | 10 |

calculate) a) variable cost.
b) Profit.

sum:- 8

The following information relating to a company is given to you.

| Particular | Rs. |
|---------------|----------|
| sales | 4,00,000 |
| Fixed cost | 1,80,000 |
| Variable cost | 2,50,000 |

Ascertain how much the value of sales must be increased for the company to break even.

sum:- 9

From the following particulars find out the Break even point. What will be the selling price per unit if B.E. P is to be ~~9000~~ 9000 units?

SUM: -14

The P.V Ratio of a firm dealing in precision instrument is 50% and the margin of safety is 40%.

you are required to work out the B.E.P and the net profit if sales volume is Rs. 50,00,000.

SUM:- 2

Determine the amount of fixed Expenses from the following.

| Particular | Rs. |
|-----------------------|----------|
| Sales | 2,50,000 |
| Direct Material | 80,000 |
| Direct Labour | 50,000 |
| Variable overheads | 20,000 |
| Profit | 60,000 |
| 40% of Fixed Expenses | |

SUM:- 3

Fill in the blanks for the each of the following independent situation.

| No. of unit sold | Selling Price (per unit) Rs | Variable cost % of sales | Contribution Margin | Fixed cost | Profit |
|------------------|-----------------------------|--------------------------|---------------------|------------|--------|
| 15,000 | ? | 90 | ? | 30,000 | 0 |
| 2,000 | 160 | ? | 80,000 | ? | (2000) |
| ? | 15 | 75 | ? | 25,000 | 50,000 |

ii

Sales

Less :- Variable cost

$$2,00,000 - 30,000$$

Fixed cost

Fixed + profit

$$[80,000 + 2,000]$$

iii

Sales

Less :- Variable cost

$$[3,00,000 - 75,000]$$

Fixed cost

$$\text{Profit Volume Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$= \frac{7500}{15000} \times 100$$

$$= 50\%$$

$$\text{B.E.P} = \frac{\text{Fixed Exp}}{\text{PVR}}$$

$$= \frac{4500}{50} \times 100$$

$$= 9,000$$

$$\text{Profit} = 15000 - 9000$$

$$= 6,000$$

$$\text{(or)}$$

$$\text{Profit} = 7500 - 4500$$

$$= 3,000$$

ANSWER :- 11

$$\text{Margin of safety} = \frac{\text{Profit}}{\text{PVR}}$$

$$= \frac{30,000}{20} \times 100$$

$$= 1,50,000$$

$$\text{PV} = \frac{\text{contribution}}{\text{sales}} \times 100$$

$$= \frac{10-8}{10} \times 100$$

$$= \frac{2}{10} \times 100$$

$$= 20\%$$

$$I \text{ Sales units } [15,000]$$

$$= \text{Sales} - \text{Variable sales}$$

$$= 100 - 90$$

$$= 10\%.$$

$$\text{Contribution sales} = 30,000 \times 10$$

$$= 3,00,000$$

$$\text{Selling price per unit} = \frac{3,00,000}{15,000} = 20$$

ii

$$\text{Sales units } [2,000 \times 16]$$

$$= 3,20,000$$

$$\text{Variable cost} = 3,20,000 - 80,000 = 2,40,000$$

$$\text{Sales} = \frac{\text{Variable cost}}{\text{Sales}} \times 100$$

$$= \frac{2,40,000}{3,20,000} \times 100$$

$$= 75$$

iii

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

$$= 100 - 75$$

$$= 25.$$

$$\frac{75,000 \times 100}{25}$$

$$= \frac{3,00,000}{15}$$

$$= 20,000$$

ANSKIER :- 8

$$\text{Break even point} = \frac{\text{Fixed cost}}{\text{contribution}} \times \text{sales}$$

$$= \frac{1,80,000}{4,00,000 - 2,50,000} \times 4,00,000$$

$$= \frac{1,80,000}{1,50,000} \times 4,00,000$$

$$= 4,80,000$$

$$\text{Sales} = 4,00,000 - 4,80,000$$

$$\text{Profit} = 80,000$$

ANSKIER :- 9

$$\text{B.E.P} = \frac{\text{Fixed Expenses}}{\text{contribution}}$$

$$= \frac{2,70,000}{100 - 75}$$

$$= \frac{2,70,000}{25}$$

$$= 10,800 \text{ units.}$$

$$\text{Fixed Expense} = \frac{\text{Fixed cost}}{\text{No. of units.}}$$

$$= \frac{2,70,000}{9,000}$$

$$= 30 \text{ unit.}$$

| | |
|---------------------|--------|
| Total fixed asset | 4,500 |
| Total variable cost | 7,500 |
| Total sales | 15,000 |

5) also calculate the volume of sales to earn profit of Rs. 6,000

Sum:- 11

A company as earned a profit of Rs. 30,000 during the year 1999. If the marginal cost and selling price of a product are Rs. 8,000 and Rs. 10 per unit. Respectively, find out the margin of safety.

Sum:- 12

You are require to calculate break even volume from the following data.

Profit Rs. 5,000 [20% of sales]

PV Ratio is 50%.

Sum:- 13

Find the profit from the following

data

| | |
|-----------------|---------|
| sales | 80,000 |
| marginal cost | 60,000 |
| Break Even sale | 60,000. |

ANSWER: 6

statement of Marginal cost

| Particular | Rs x | Rs y |
|-------------------|----------|----------|
| sales | 1,70,000 | 1,70,000 |
| (-) variable cost | 34,000 | 85,000 |
| contribution | 1,36,000 | 85,000 |
| (-) fixed cost | 85,000 | 34,000 |
| Profit | 51,000 | 51,000 |

$$B.E.P = \frac{\text{Fixed Exp.}}{\text{contribution}} \times \text{sales}$$

x

y

$$= \frac{85,000}{1,36,000} \times 1,70,000 = \frac{34,000}{85,000} \times 1,70,000$$

x = 1,06,250

y = 68,000

ANSWER :- 7

calculation of variable cost

| Particular | Rs |
|------------------------------------|--------|
| a) B.E.P sales units 4,000 x 10 | 40,000 |
| (-) Fixed cost | 8,000 |
| variable cost | 32,000 |
| b) sales 7,000 x 10 | 70,000 |
| (-) variable 7000 x 8 | 56,000 |
| $\frac{8000}{1000} = 8$ | 14,000 |
| (-) fixed cost | 8,000 |
| Profit | 6,000 |

ANSWER:-12:-

$$\text{Sales} = \text{Profit } 20\%$$
$$\text{Profit Assumption} = 100$$

$$5000 \times \frac{100}{20} = 25,000$$

$$\text{Fixed cost} = \text{sales} \times \text{PVR}$$
$$= 25,000 \times \frac{50\%}{100}$$

$$= 12,500$$

$$\text{B.E.P} = \frac{\text{Fixed cost}}{\text{PVR}}$$

$$= \frac{12500 - 5000}{50} \times 100$$

$$= 15,000.$$

ANSWER:-13

$$\text{PVR} = \frac{\text{contribution}}{\text{sales}} \times 100$$

$$= \frac{\text{sales} - \text{Margin.}}{\text{sales}} \times 100$$
$$= \frac{80,000 - 60,000}{80,000} \times 100$$

$$= 25\%$$

$$\text{B.E.P} = \frac{\text{Fixed Exp}}{\text{PVR}}$$

$$= 60,000 \times \frac{25}{100}$$

$$= 15,000$$

$$\text{Profit} = 20,000 - 15,000$$

$$= 5,000.$$

ANSWER:- 4

calculation of B.E.P

$$\text{B.E.P} = \frac{\text{Fixed Exp}}{\text{contribution per unit}}$$

$$\text{contribution} = \text{selling} - \text{variable cost}$$

$$= 15 - 10$$

$$= 5$$

$$\text{B.E.P} = \frac{1,50,000}{5}$$

$$= 30,000$$

$$\text{B.E.P (Rupees)} = 30,000 \times 15$$

$$= 4,50,000$$

ANSWER: 5

calculation of B.E.P.

$$\text{B.E.P} = \frac{\text{Fixed Exp}}{\text{contribution per unit}} \times \text{sales}$$

$$\text{contribution} = \text{selling} - \text{variable cost}$$

$$= 6,00,000 - 2,00,000 + 1,20,000 + 80,000$$

$$= 2,00,000$$

$$\text{B.E.P} = \frac{1,50,000}{2,00,000} \times 6,00,000$$

$$= 4,50,000$$

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