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Q.1 Marginal cost, Contribution & profit

Selling price per unit = ₹ 120
variable cost per unit = ₹ 75
Fixed cost = ₹ 90000
units sold = 3000

(1) Contribution = S.P − V.C
= 120 − 75
= ₹45

(2) Total Contribution = Contribution × unit
= 45 × 3000
= 135 000

(3) Profit = Total Contribution − fixed cost
= 1,35000 − 90,000
= 45000

Q.2 Break event point
SP = 200, VC = 120, FC = 160 000

(a) Contribution = SP − VC
= 200 − 120
= 80

(b) BEP = $\frac{FC}{Contribution} = \frac{160000}{80} = 2000$ units

Q.3 Break even point

SP = 50 , VC = 30 Fixed Cost = 300000

Contribution = SP - VC
= 50 - 30
= 20

PV ratio = $\frac{\text{contribution}}{SP} \times 100$

= $\frac{20}{50} \times 100$

= 40 % = 0.4

BEP = $\frac{\text{Fixed cost}}{\text{PV ratio}} = \frac{300000}{0.4}$

= 750 000

Q.4 Pv ratio & change in selling price

(a) New Contribution = SP - VC
= 110 - 60
= 50

(b) New Pv ratio = $\frac{\text{Contribution}}{SP} \times 100$

= $\frac{50}{110} \times 100$

= 0.4545

(c) New BEP = $\frac{FC}{PV} = \frac{240000}{0.4545}$

= 5 28 000

Q.5 Margin of Safety :-

BEP = 4000 units , sales = 6500 units

(1) MOS = Actual Sales - BEP
= 6500 - 4000
= 2500 units

(2) MOS % = $\frac{\text{MOS}}{\text{Actual}} \times 100$
= $\frac{2500}{6500} \times 100$
= 38.46 %

Q.6 Profit using Pv ratio

Contribution = Pv ratio * sales
= 0.30 x 10 00 000
= 300000

Profit = Contribution - fixed
= 300000 - 200000
= 100 000

Q.7 Change in VC & Recieved BEP

Contribution = 150 - 100
= 50

BEP = $\frac{\text{Fixed cost}}{\text{Contribution}} = \frac{120\,000}{50}$
= 2400 units

Q.8 Funding Fixed cost

SP = 500 BEP = 2000 VC = 300

Contribution = 500 - 300 = 200

Fixed cost = 2000 × 200
= 400000

Q.9 Multi-product Break Even

Product A = SP = 100, VC = 60
Contribution = 100 - 60 = 40 %.
Sales mix = 60%.

Product B = SP = 80, VC = 50
∴ Contribution = 30
Sales = 40%.

Composite = (0.6 × 40) + (0.4 × 30)
= 24 + 12
= 36 ₹

BEP = Fixed cost / Composite = 300000 / 36 = 8333.3

Q.10 Special order Decision
SP = 250, Special price = 180, VC = 15
F.C is same

(a) Contribution = Special price - VC
= 180 - 150
= 30

(b) Acceptance decision
Contribution is positive
∴ Special order should be accepted

Q.11 SP = 400, VC = 260, Fixed cost = 280000
Target = 120000

Contribution = 400 - 260
= 140

Required = 280000 + 120000
= 400000
140
= 2858 units

Q.12 SP = 200, VC = 140, Fixed cost = 120000
Sales = 3500 units

a] Profit before increase
Contribution = 200 - 140 = 60
Total = 60 × 3500 = 210000
profit = 210000 - 120000 = 90000

(b) Change in profit = 90000 - 55000
= 35000