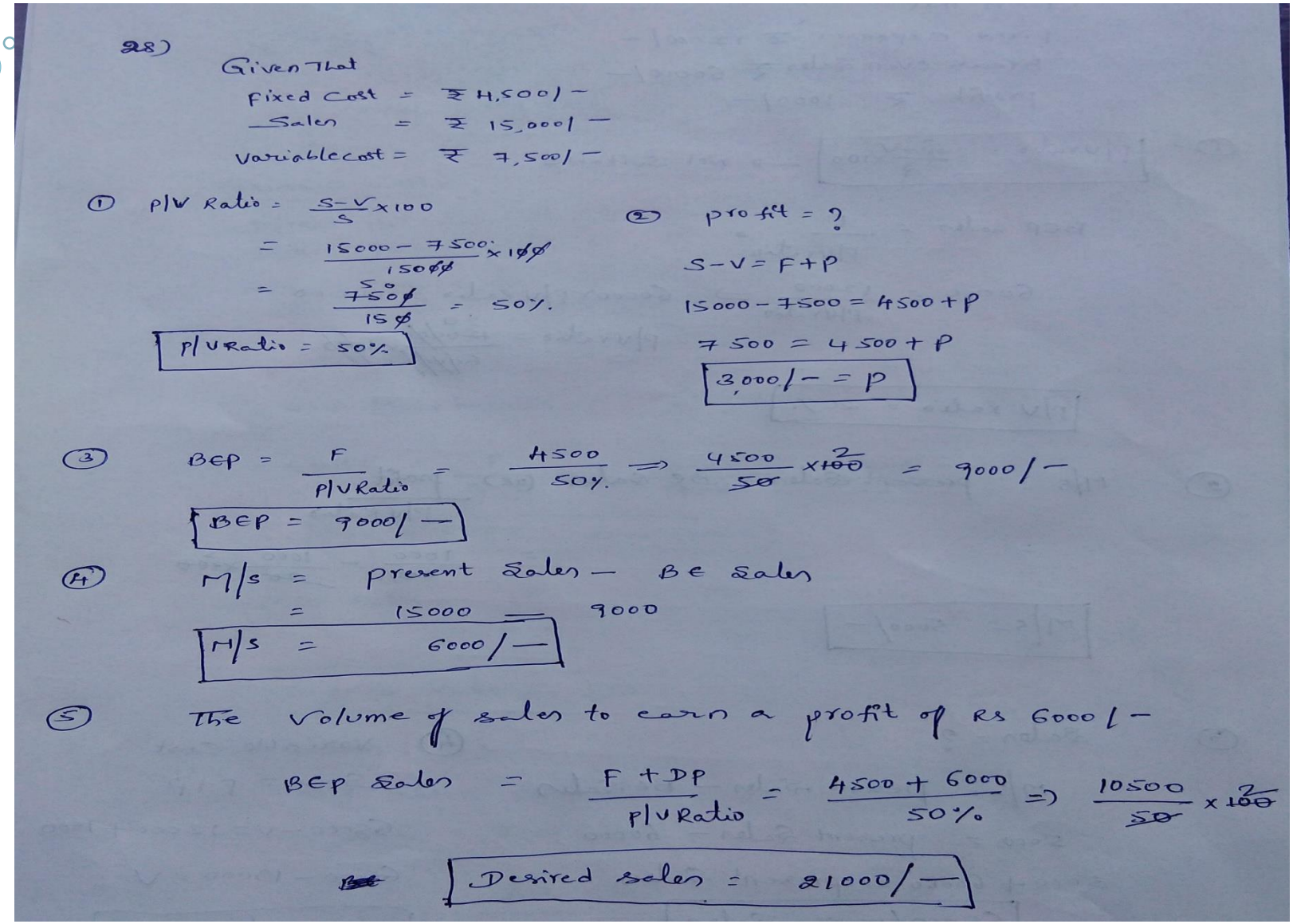
BEP Problems



30)

Given That

Fixed Expenses ₹ 12,000/-

Break even Sales ₹ 60,000/-

profit ₹ 1000/-

(1) $\boxed{P/V\ ratio = \frac{S-V}{S} \times 100}$ → Not suitable

$$BEP\ Sales = \frac{F}{P/V\ ratio}$$

$$60000 = \frac{12000}{P/V\ ratio} \Rightarrow 60000 \times P/V\ Ratio = 12000$$

$$P/V\ ratio = \frac{20}{\cancel{120000}} \times \cancel{100}$$

$$\boxed{P/V\ Ratio = 20\%}$$

(2) M/s = present Sales - BE Sales (or) $\frac{profit}{P/V\ Ratio}$

$$= \frac{1000}{20\%} = \frac{1000}{\cancel{20}} \times \cancel{100}^{5}$$

$$\boxed{M/s = 5000/-}$$

(3) Sales = ?

M/s = present Sales − BE Sales

5000 = present Sales − 60000

5000 + 60000 = present Sales

$\boxed{65000/- = Sales}$

(4) Variable Cost

S − V = F + P

65000 − V = 12000 + 1000

65000 − 13000 = V

$\boxed{52,000/- = V}$

32) Given that

Selling price per unit = 100

Less:- Trade discount $100 \times \frac{10}{100} = 10$

New selling price = 90

Variable Cost:

Direct Material cost per unit = 30

Direct labour cost per unit = 10

Variable overheads @ 200% on direct labour $100 \times \frac{200}{100} = 20$

Variable Cost = 60

Fixed Overheads = 60000/-

(1) BEP in Units $= \frac{F}{S-V} = \frac{60000}{90-60} \Rightarrow \frac{60000}{30} = 2000$ Units

BEP in Units = 2000 Units

(2) BEP in Sales $= \frac{F}{S-V} \times S \Rightarrow \frac{60000}{90-60} \times 90 \Rightarrow \frac{60000}{30} \times 90$

$= 180000/-$

BEP in Sales = 1,80,000/-

(3) profit when :-

Sales are 20% above BEP

BEP in Units = 2000 Units

Add:- Increase 20%. $200 \times \frac{20}{100} = 400$ Units

2400 Units

BEP in Units $= \frac{F+DP}{S-V}$

$2400 = \frac{60000+DP}{90-60}$

$2400 \times 30 = 60000 + DP$

$72000 - 60000 = DP$

₹ 12,000/- = DP

profit when sales are 20% above BEP

Profit = 12,000/-

(4) profit when :-

Sales are 40% above BEP

BEP Sales = 2000 units

Add:- Increase 40%

$2000 \times \frac{40}{100}$ = 800 units

2800 units

BEP in units = $\frac{F + DP}{S - V}$

$2800 = \frac{60000 + DP}{90 - 60}$

$2800 \times 30 = 60000 + DP$

$84000 = 60000 + DP$

$84000 - 60000 = DP$

₹ 24000/- = P

(33) Given that;

Selling price per unit = 60/-

Variable cost:

Variable Mfg cost = 33/-

Variable Selling cost = 7/- 40/-

Fixed Exp:-

Fixed factory Overheads 180000/-

Fixed Selling costs 84000/- 2,64000/-

(i) Break even Sales : $\frac{F}{S-V} \times S \Rightarrow \frac{264000}{60-40} \times 60 \Rightarrow \frac{264000}{20} \times 60$

BE Sales = 792000/-

(2) No of units that must be sold to earn a profit of ₹ 20000/- per year

$$\text{BEP in units (Desired sales in units)} = \frac{f + DP}{S - V} \Rightarrow \frac{264000 + 20000}{60 - 40} \Rightarrow \frac{14200}{\cancel{284000}\,\cancel{0}} \Rightarrow \frac{}{20}$$

Desired sales in units = 14,200 units

(3) What should be the selling price per unit if BEP is brought down to 12000 units

$$\text{BEP in units} = \frac{\cancel{f + DP}}{\cancel{S - V}} \quad \frac{f}{S - V}$$

$$12000 = \frac{264000 + \cancel{DP}}{S - 40}$$

$$12000 \times (S - 40) = 264000$$

$$12000S - 480000 = 264000$$

$$12000S = 264000 + 480000$$

$$12000S = 744000$$

$$S = \frac{\cancel{744000}}{\cancel{12000}} \quad {}^{62}$$

Selling price = 62/-

(35)

Given That:

Fixed cost = 8,00000/-

Desired profit = 2,000,00/-

Selling price per unit = 10/-

Variable cost = 8/-

$$\text{BEP Sales} = \frac{F + Dp}{S - V} \times S$$

$$= \frac{800000 + 200000}{10 - 8} \times 10$$

$$= \frac{1000000}{2} \times \frac{5}{10}$$

$$= 500000/-$$

Desired sales when profit of 20000/- 5,000,00/-

(38) Contribution Ratio = $\frac{\text{Selling price} - \text{Variable cost}}{\text{Selling price}} \times$ % of share in sales

B = $\frac{40-16}{40} \times 0.4 \Rightarrow \frac{24}{40} \times 0.4 \longrightarrow 0.24$

C = $\frac{50-20}{50} \times 0.6 \Rightarrow \frac{30}{50} \times 0.6 \longrightarrow 0.36$

0.60

Total Contribution = $800000 \times 0.60 = 4,80,000/-$

(-) Fixed Cost = $1,00,000/-$

Profit = $3,80,000/-$

Contribution Ratio

C = $\frac{50-20}{50} \times 0.7 \Rightarrow \frac{30}{50} \times 0.7 \longrightarrow 0.42$

D = $\frac{60-28}{60} \times 0.3 \Rightarrow \frac{32}{60} \times 0.3 \longrightarrow 0.16$

0.58

Total Contribution = $900000 \times 0.58 = 5,22,000/-$

(-) Fixed Cost = $1,25,000/-$

Profit = $3,97,000/-$

By B & C products producing, the company gets profit of 3,80,000/- and By Drop the product B and Adding D the Company gets profit of 3,97,000/-. so I suggest proposed product mix.