Profit, Loss & Discount

(1) Let M.P = ₹100

Discount = 30%

S.P = 100 - 30 = ₹70

Loss = 16%

$C.P = \frac{70 \times 100}{84} = \frac{250}{3}$ Rs

Discount = 10%

S.P = 100 - 10 = ₹90

$Profit = 90 - \frac{250}{3} = \frac{270 - 250}{3} = \frac{20}{3}$ Rs

$So, profit\% = \frac{20}{3} \times \frac{3}{250} \times 100 = 8\%$

(2) Cost of 1 site = ₹18000

So, total C.P of 2 sites = 18000 × 2 = ₹36,000

C.P of 1 site = ₹18000

Profit = 25%

$S.P = 18000\left(\frac{100+25}{100}\right) = 180 \times 125$

$= ₹22500$

Loss in another site = 25%

$So, S.P = 18000 \times \frac{75}{100} = ₹13500$

Total C.P = ₹36000

Total S.P = 22500 + 13500 = ₹36000

So, net amount is 0. Since, there is no gain or loss.

(3) Let C.P = x

So, M.P = $x + \frac{30x}{100} = \frac{130x}{100} = \frac{13x}{10}$

Discount = 30%

S.P = $\frac{13x}{10} - \frac{13x}{10} \times \frac{30}{100} = \frac{13x}{10} - \frac{39x}{100} = \frac{130x - 39x}{100} = \frac{91x}{100}$

Loss = $x - \frac{91x}{100} = \frac{100x - 91x}{100} = \frac{9x}{100}$

Loss % = $\frac{9x}{100} \times \frac{1}{x} \times 100 = 9\%$

(4) C.P of 90 bags = ₹450 × 90 = ₹40500

Profit = 9%

S.P = $\frac{40500 \times 109}{100}$ = ₹44145

C.P of 30 bags = 450 × 30 = ₹13500

Profit = 20%

S.P = $\frac{13500 \times 120}{100}$ = ₹16200

C.P of 20 bags = 450 × 20 = ₹9000

Loss = 6%

S.P = $\frac{9000 \times 94}{100}$ = ₹8460

Remaining bags = 90 − (30 + 20)
= 90 − 50 = 40 bags

Total S.P
= 16200 + 8460
= ₹24660

So, S.P of 40 bags = 44145 − 24660
= ₹19485

So, S.P of 1 bag = $\frac{19485}{40}$ = $\frac{1897}{8}$

(5) Let M.P = 100 units

Discount = 10%

S.P = 100 - 10 = ₹90 units

Profit = 20%

C.P = $\frac{90 \times 100^{25}}{120_{4}^{3}} = 75$ units

Profit in ₹ = 90 - 75 = 15 units

According to question, 15 units = 7500

So, M.P = $\frac{7500^{500}}{15} \times 100 = ₹50000$