

ASSIGNMENT 1

BT21BTECH11005 - MANIKANTA

PROBLEM:- Sachin invests ₹8500 in 10%, ₹100 shares at ₹170. He sells the shares when the price of each share rises by ₹30. He invests the proceeds in 12%, ₹100 shares at ₹125.

Find:

- (i) the sale proceeds.
- (ii) the number of ₹125 shares he buys.
- (iii) the change in his annual income.

SOLUTION:-

given

investment = ₹8500
 face value = ₹100
 shareprice of 1st company = ₹170
 shareprice of 2nd company = ₹125
 profit = ₹30
 percentage of 1st company = 10%
 percentage of 2nd company = 12%

(iii) change in income = new dividend - old dividend

$$\text{dividend} = \frac{\text{shares} \times \text{face value} \times \text{percentage}}{100} \quad (9)$$

$$\text{old dividend} = \frac{50 \times 100 \times 10}{100} = 500 \quad (10)$$

$$\text{new dividend} = \frac{80 \times 100 \times 12}{100} = 960 \quad (11)$$

$$\begin{aligned} \text{change in income} &= 960 - 500 \\ &= 460. \end{aligned} \quad (12) \quad (13)$$

∴ from (5), (8), (13)

(i) sale proceeds = ₹10,000

(ii) the number of ₹125 shares he buys = 80

(iii) change in his annual income = ₹460.

(i) sales proceeds = shares × (share price + profit)

$$\text{no of shares} = \frac{\text{investment}}{\text{share price}} \quad (1)$$

$$= \frac{8500}{170} \quad (2)$$

$$= 50 \quad (3)$$

$$\text{sale proceeds} = 50 \times (170 + 30) \quad (4)$$

$$= 10,000 \quad (5)$$

(ii) new number of shares

$$= \frac{\text{sale proceeds}}{\text{share price}} \quad (6)$$

$$= \frac{10,000}{125} \quad (7)$$

$$\text{new shares} = 80 \quad (8)$$