

# 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

$$\text{dividend} = \frac{\text{shares} \times \text{face value} \times \text{percentage}}{100}$$

$$\begin{aligned} \text{old dividend} &= \frac{50 \times 100 \times 10}{100} \\ &= 500 \end{aligned}$$

$$\begin{aligned} \text{new dividend} &= \frac{80 \times 100 \times 12}{100} \\ &= 960 \end{aligned}$$

$$\begin{aligned} \text{change in income} &= 960 - 500 \\ &= 460. \end{aligned}$$

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

$$\begin{aligned} \text{no of shares} &= \frac{\text{investment}}{\text{share price}} \\ &= \frac{8500}{170} \\ &= 50 \end{aligned}$$

$$\begin{aligned} \text{sale proceeds} &= 50 \times (170 + 30) \\ &= 10,000 \end{aligned}$$

(ii) new number of shares

$$\begin{aligned} &= \frac{\text{sale proceeds}}{\text{share price}} \\ &= \frac{10,000}{125} \\ \text{new shares} &= 80 \end{aligned}$$