

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:

- the sale proceeds.
- the number of ₹125 shares he buys.
- the change in his annual income.

SOLUTION:-

given

profit = ₹30

parameter & symbol	company 1	company 2
investment (IN)	₹8500	???
face value (FV)	₹100	₹100
percentage (P)	10%	12%
shareprice (SP)	₹170	₹125
no of shares bought (SB)	???	???
dividend (D)	500	960
sale proceeds (SPRO)	???	-

$$SPRO = SB \times (SP + \text{PROFIT}) \quad (1)$$

$$SB = \frac{IN}{SP} \quad (2)$$

$$D = \frac{SB \times FV \times P}{100} \quad (3)$$

(i) SALE PROCEEDS

$$SPRO = SB \times (SP + \text{PROFIT})$$

$$SB = \frac{IN}{SP} \quad (4)$$

$$= \frac{8500}{170} \quad (5)$$

$$= 50 \quad (6)$$

$$SPRO = 50 \times (170 + 30) \quad (7)$$

$$= 10,000 \quad (8)$$

(ii) NEW NO OF SHARES

$$\text{new shares} = \frac{SPRO}{SP} \quad (9)$$

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

$$\text{new shares} = 80 \quad (11)$$

(iii) CHANGE IN INCOME

change in income = new dividend(N.D) - old dividend(O.D)

$$D = \frac{SB \times FV \times P}{100} \quad (12)$$

$$O.D = \frac{50 \times 100 \times 10}{100} = 500 \quad (13)$$

$$N.D = \frac{80 \times 100 \times 12}{100} = 960 \quad (14)$$

$$\text{change} = 960 - 500 \quad (15)$$

$$= 460. \quad (16)$$

∴ from (8), (11), (16)

(i) sale proceeds = ₹10,000

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

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