29. STOCKS AND SHARES

To start a big business or an industry, a large amount of money is needed. It is beyond the capacity of one or two persons to arrange such a huge amount. However, some persons associate together to form a company. They, then, draft a proposal, issue a prospectus(in the name of company), explaining the plan of the project and invite the public to invest money in this project. They, thus, pool up the funds from the public, by assigning them **shares** of the company.

IMPORTANT FACTS AND FORMULAE

1. **Stock-capital:** The total amount needed to run the company is called the **stock-capital**
2. **Shares or stock:** The whole capital is divided into small units, called **shares** or **stock.**
   For each investment, the company issues a share-certificate, showing the value of each share and the number of shares held by a person.
   The person who subscribers in shares or stock is called a **share holder** or **stock holder.**
3. **Dividend:** The annual profit distributed among share holders is called **dividend.** Dividend is paid annually as per share or as a percentage.
4. **Face Value:** The value of a share or stock printed on the share-certificate is called its **Face Value** or **Nominal Value** or **Par Value.**
5. **Market Value:** The stocks of different companies are sold and bought in the open market through brokers at stock-exchanges. A share (or stock) is said to be:
   (i) **At premium** or **Above par**, if its market value is more than its face value.
   (ii) **At par**, if its market value is the same as its face value.
   (iii) **At discount** or **Below par**, if its market value is less than its face value.

   Thus, if a Rs.100 stock is quoted at a premium of 16, then market value of the stock = Rs. (100+16) = Rs. 116.
   Likewise, I f a Rs. 100 stock is quoted at a discount of 7, then market value of the stock = Rs. (100-7) = Rs. 93.
6. **Brokerage:** The broker's charge is called **brokerage.**
   (i) When stock is purchased, brokerage is added to the cost price.
   (ii) When stock is sold, brokerage is subtracted from the selling price.

   Remember:
   (i) The face value of a share always remains the same.
   (ii) The market value of a share changes form time to time.
   (iii) Dividend is always paid on the face value of a share.
   (iv) Number of shares held by a person

$$= \frac{\text{Total Investment}}{\text{Investment in 1 share}} = \frac{\text{Total Income}}{\text{Income from 1 share}} = \frac{\text{Total Face Value}}{\text{face Value of 1 share}}$$

Thus, by a Rs. 100, 9% stock at 120, we mean that:

(i) Face Value (N>V) of stock = Rs. 100.

(ii) Market Value (M>V) of stock = Rs. 120.

(iii) Annual dividend on 1 share = 9% of face value = 9% of Rs. 100 = Rs. 9.

(iv) An investment of Rs. 120 gives an annual income of Rs. 9.

(v) Rate of interest p.a = Annual income from an investment of Rs. 100.

$$= \left(9/120 * 100\right) \% = 7\ (1/2)\ \%.$$

SOLVED EXAMPLES

Ex. 1. Find the cost of:

(i) Rs. 7200, 8% stock at 90;

(ii) Rs. 4500, 8.5% stock at 4 premium;

(iii) Rs. 6400, 10% stock at 15 discount.

Sol. **(i)** Cost of Rs. 100 stock = Rs. 90

Cost of Rs. 7200 stock = Rs. (90/100 * 7200) = Rs. 6480.

(ii) Cost of Rs. 100 stock = Rs. (100+4)

Cost of Rs. 4500 stock = Rs. (104/100 * 4500) = Rs. 4680

(iii) Cost of Rs. 100 stock = Rs. (100-15)

Cost of Rs. 6400 stock = Rs. (85/100 * 6400) = Rs. 5440.

Ex. 2. Find the cash required to purchase Rs. 3200, 7(1/2) % stock at 107 (brokerage (1/2) %)

Sol. Cash required to purchase Rs. 100 stock = Rs (107+(1/2)) = Rs. (215/2).

Cash required to purchase Rs. 100 stock = Rs [(215/2)*(1/100)*3200] = Rs. 3440.

Ex. 3. Find the cash realised by selling Rs. 2440, 9.5% stock at 4 discount (brokerage (1/4) %)

Sol. By selling Rs. 100 stock , cash realised = Rs. [(100-4)-(1/4)] = Rs. (383/4).

By selling Rs. 2400 stock, cash realised = Rs. [(383/4)*(1/100)*2400] = Rs 2298.

Ex. 4. Find the annual income derived from Rs. 2500, 8% stock at 106.

Sol. Income from Rs. 100 stock = Rs. 8.

Income from Rs. 2500 = Rs. [(8/1000*2500) =Rs. 200.

Ex. 5. Find the annual income derived by investing Rs. 6800 in 10% stock at 136.

Sol. By investing Rs. 136, income obtained = Rs. 10.

By investing Rs. 6800, income obtained = Rs. [(10/136)*6800] = Rs. 500.

Ex. 6. Which is better investment? 7(1/2) % stock at 105 or 6(1/2) % at 94.

Sol. Let the investment in each case be Rs. (105*94).

Case I : 7(1/2) 5 stock at 105:
On investing Rs. 105, income = Rs. (15/2).
On investing Rs. (105*94), income = Rs. [(15/2)*(1/105)*105*94] = Rs 705.

Case II : 6(1/2) % stock at 94:
On investing Rs. 94, income = Rs. (13/2).
On investing Rs. (105*94), income = Rs. [(13/2)*(1/94)*105*94] = Rs. 682.5.
Clearly, the income from 7(1/2) % stock at 105 is more.
Hence, the investment in 7(1/2) % stock at 105 is better.

Ex. 7. Find the cost of 96 shares of Rs. 10 each at (3/4) discount, brokerage being (1/4) per share.

Sol. Cost of 1 share = Rs. [(10-(3/4)) + (1/4)] = Rs. (19/2).
Cost of 96 shares = Rs. [(19/2)*96] = Rs. 912.

Ex. 8. Find the income derived from 88 shares of Rs. 25 each at 5 premium, brokerage being (1/4) per share and the rate of dividend being 7(1/2) % per annum. Also, find the rate of interest on the investment.

Sol. Cost of 1 share = Rs. [25+5+1/4)] = Rs. (121/4).
Cost of 88 shares = Rs.[(121/4)*88] = Rs. 2662.

∴ Investment made = Rs. 2662.
Face value of 88 shares = Rs. (88*25) = Rs. 2200.
Dividend on Rs. 100 = (15/2).
Dividend on Rs. 2200 = Rs. [(15/20*(1/100)*2200] = Rs. 165.

∴ Income derived = Rs. 165.
Rate of interest on investment = [(165/2662)*100] = 6.2 %.

Ex. 9. A man buys Rs. 25 shares in company which pays 9 % dividend. The money invested is such that it gives 10 % on investment. At what price did he buy the shares?

Sol. Suppose he buys each share for Rs. x.
Then, [25*(9/100)] = [x*(10/100)] or x = Rs. 22.50.
Cost of each share = Rs. 22.50.

Ex. 10. A man sells Rs.5000, 12 % stock at 156 and uinvests the proceeds parity in 8 % stock at 90 and 9 % stock at 108. He hereby increases his income by Rs. 70. How much of the proceeds were invested in each stock?

Sol. S.P of Rs. 5000 stock = Rs. [(156/100)*5000] = Rs. 7800.

Income from this stock = Rs. [(12/100)*5000] = Rs. 600.

Let investment in * % stock be x and that in 9 % stock = (7800-x).

$\therefore$ [x*(8/90)] + (7800-x) * (9/108) = (600+7)

$\Leftrightarrow$ (4x/45) + [(7800-x)/12] = 670 $\Leftrightarrow$ 16x + 117000-15x = (670*180) $\Leftrightarrow$ x = 3600.

$\therefore$ Money invested in 8 % stock at 90 = Rs. 3600.

Money invested in 9 % at 108 = Rs. (7800-3600) = Rs. 4200.