SHARES AND DEBENTURES

To start an industry on a large scale, requires huge amount of capital, professional skills, and other resources. Sometime it may not be possible for a single individual to do the needful. In such cases, a group of like minded people get together and set up a company, called a Joint-Stock Company registered under companies act. The people who start the company are called promoters of the company, who frame the constitution of the company, which lays down the objectives of the company.

To raise the capital from the general public, the company issues a prospectus giving details of the projects undertaken, background of the company, its strength and risks involved. The capital of the company is divided into convenient units of equal value, called shares. Normally, they are of the denomination of Rs. 10 or Rs.100.

In this lesson, we shall study about shares, stocks and method of calculating dividends/profits by the share holders. We shall also study about debentures, and the method of sale and purchase of shares and debentures.

OBJECTIVES

After studying this lesson, you will be able to

- explain the need of a joint stock company;
- define the terms such as shares, preferred and common shares, debentures, dividend, brokerage, paid-up value, at par, at premium, below par, etc.;
- distinguish between shares and debentures;
- find the dividend under different conditions for different types of shares;
- find the change in income when different transactions are made;
- distinguish between various stocks on the basis of income therefrom; and
- find the income (as interest) on a given number of debentures.
EXPECTED BACKGROUND KNOWLEDGE

- knowledge of unitary method, ratio and proportion, simple interest

37.1 SOME DEFINITIONS

**Share**: The total capital of the company is divided into convenient units of equal value and each unit is called a share.

**Shareholder**: An individual who purchases/possesses the share/shares of the company is called a shareholder of the company. Each share holder is issued a share certificate by the company, indicating the number of shares purchased and value of each share.

**Par value**: The original value of the share, which is written on the share certificate, is called its par value. This is also called nominal value or face value of the share.

**Dividend**: When the company starts production and starts earning profit, after retaining some profit for running expenses interest on loans, if raised, the remaining part of the profit is divided among shareholders, and is called dividend. Dividend is usually expressed as certain percentage of its par value or certain among per share.

37.2 TYPES OF SHARES

The shares are of two types:

(i) Preferred shares, and

(ii) Ordinary (or common) shares

We will discuss in detail about them below:

(i) **Preferred shares**: There are the shares on which some fixed amount of dividend is paid, after working expenses taxes, interests, etc. are paid. Sometimes, when the profit is not enough even to meet the other expenses, even the preferred share holders do not get any dividend.

(ii) **Ordinary (or common) shares**: These type of shareholders get dividend only after the holders of preference shares receive their share of profit. Due to this only the rate of dividend is not fixed and keep on varying.

37.3 FACE VALUE AND MARKET VALUE OF A SHARE

We have already explained that the price at which the company issues shares to the shareholders is called its face value.

Like other commodities, shares are also sold and purchased in the market. This market is given a special name "Stock Exchange ". The price of a share as quoted in the market, is called the market value of the share. Like other commodities, the market value of shares keep on chainging according to demand in the market.

(i) When the market value of a share equals its face value, the share is said to be at par.

(ii) If the market value of a share is more than its face value, it is said to be above par (or at premium). On the contrary, if the market price of a share is less than its face value, it is said to be below par (or at discount).
Shares and Debentures

**Note:** The company always pays dividend on the face value and not on the market value of the share.

Let us take some examples.

**Example 37.1** Ram Lal has 200 shares of par value Rs. 10 each. The company declares an annual dividend of 8%. Find the dividend received by Ram Lal.

**Solution:**
Total par value of 200 shares owned by Ram Lal

\[
= Rs. (200 \times 10) = Rs. 2000
\]

\[\therefore \text{Dividend} = Rs. (2000 \times 8\%) = Rs. 160\]

**Example 37.2** A company has issued 25000 shares of par value Rs. 100 each. If the total dividend declared by the company is Rs.200000, find the rate of dividend paid by the company.

**Solution:**

- Number of shares : 25000
- Total dividend paid = Rs. 200000

\[\therefore \text{Dividend paid per share} = Rs. \frac{200000}{25000} = Rs. 8\]

- Par value of a share = Rs. 100
- Rate of dividend paid = 8 \%

**Example 37.3** Ram had 2000 preferred shares and 5000 ordinary shares of a company of par value Rs. 10 each. If the dividend declared on preferred shares is 20% and is 12% on ordinary shares, find the annual dividend received by Ram.

**Solution:**

- Dividend on preferred shares = 20% of total par value

\[
= Rs. \left( \frac{20}{100} \times 2000 \times 10 \right) = Rs. 4000
\]

- Dividend on ordinary shares = 12% of total par value

\[
= Rs. \left( \frac{12}{100} \times 5000 \times 10 \right) = Rs. 6000
\]

\[\therefore \text{Total dividend received by Ram} = Rs. (4000+6000) = Rs. 10000\]

**Example 37.4** Lalwani purchases 1000 shares of a company, of par value Rs.100 each, paying an annual dividend of 20%, at such a price that he gets 12 \(\frac{1}{2}\) % on his investment. Find the market price of a share.

**Solution:**

- Dividend received by Lalwani

\[
= Rs. \left( \frac{1000 \times 100 \times 20}{100} \right) = Rs. 20000
\]

Let the investment of Lalwani be Rs. x

\[\therefore 12 \frac{1}{2} \% \text{ of } x = Rs. 20000\]
\[ x = \text{Rs.} \left( \frac{20000 \times 100 \times 2}{25} \right) = \text{Rs.}160000 \]

\[ \therefore \text{Market value of 1000 shares} = \text{Rs.} 160000 \]

\[ \therefore \text{Market value of one share} = \text{Rs.} 160 \]

**Example 37.5**

A man sells 1000 shares of a company (of par value Rs. 10 each) giving a dividend of 20% at Rs.25 each. He reinvests the proceeds in shares of another company (of par value Rs. 100 each), paying a dividend of \(12 \frac{1}{2}\%\), at Rs. 125 each. Find the change in his income.

**Solution**

Dividend From 1000 shares of par value Rs. 10 each

\[ = \text{Rs.} \left( \frac{1000 \times 10 \times 20}{100} \right) = \text{Rs.}2000 \]

Amount received by selling 1000 shares at Rs. 25 each

\[ = \text{Rs.} (1000 \times 25) = \text{Rs.}25000 \]

\[ \therefore \text{Number of shares of other company at market rate of Rs. 125 each} = \frac{25000}{125} = 200 \]

Par value of each share = Rs. 100 : Rate of dividend : \(12 \frac{1}{2}\%\)

\[ \therefore \text{Dividend received} = \left( \frac{200 \times 100 \times 25}{200} \right) = \text{Rs.}2500 \]

\[ \therefore \text{Change in income} = \text{Rs.} (2500-2000) \]

\[ = \text{Rs.500 increase.} \]

**Example 37.6**

Asif purchased 400 shares of a company (of par value Rs. 10 each) at a premium of 25%. He sells these shares when their price rose to Rs. 16.50 per share. Find his gain in the transaction.

**Solution**

Purchase price of a share by Asif

\[ = \text{Rs.} \left[ 10 \times \left( \frac{100 + 25}{100} \right) \right] \]

\[ = \text{Rs.}12 \frac{1}{2} \]

Selling price of each share

\[ = \text{Rs.} 16 \frac{1}{2} \]

\[ \therefore \text{Gain on selling one share} = \text{Rs.} \left( 16 \frac{1}{2} - 12 \frac{1}{2} \right) = \text{Rs.}4 \]

\[ \therefore \text{Gain on selling 400 shares} = \text{Rs.} 1600 \]

**CHECK YOUR PROGRESS 37.1**

1. A company declares an annual dividend of 9%. If Ramesh owns 600 shares of the company, of par value Rs.10 each, find the dividend received by Ramesh.
2. Find the dividend received annually on 500 shares of par value Rs. 100 each at 5% payable half yearly.

3. A company issued 25000 shares of par value Rs. 10 each. If the total dividend released by the company is Rs. 40000, find the rate of dividend paid by the company.

4. The capital stock of company is Rs. 2750000, which is divided into 2500 preferred shares of 7% of par value Rs.100 and 25000 ordinary shares of par value Rs.10 each. If the net profit shown by the company is Rs. 270000 out of which Rs. 160000 is distributed as dividend, find
   (i) rate of dividend paid on ordinary shares
   (ii) dividend to be received by a person for 100 preferred shares and 200 ordinary shares.

5. A man buys 400 shares of a company (of par value Rs.100 each) for Rs.125 per share and sells them at a premium of Rs. 45 per share. Find the gain of the man in the transaction.

6. Raman purchased 250 shares of a company (of par value Rs.100 each, paying an annual dividend of 20%) at such a price that he gets 10% on his investment. Find the market price of a share.

7. Ravi sells 200 shares of a company (of par value Rs.100 each and paying a dividend 7.5%) at Rs.120 each. He reinvests the proceeds in another company in shares of par value Rs.10 at Rs. 12.50, paying a dividend of 10%. Find the change in Ravi's dividend income.

8. Akash sells 2000 shares of a company A (of par value Rs.100 each, paying a dividend of 10%) at Rs.120 each. He invested the proceeds in shares of another company B par value Rs. 25 each at Rs. 40 giving dividend of 15%
   Find (i) the number of shares of company B purchased by Akash
   (ii) change in the dividend income.

37.4 STOCKS AND BROKERAGE

37.4.1 Stock

If a person holds 500 shares of a company, of par value Rs.100 each, he is said to hold Rs. (500×100) or Rs. 50000 stock of that company.

Generally, the stocks are referred to by their rates of dividend. Thus, if the dividend on Rs.100 stock is Rs.10, it is called "10% stock" and if the market value of the stock is Rs.125, we say it is "10% stock at Rs.125". It may be recalled that dividend is always calculated on par value.

37.4.2 Brokerage

The sale and purchase of a stock in market is generally done through a broker, who charges some amount for his services. This charge is called brokerage.

The brokerage is generally charged as some percentage of the market value of the stock or it is some fixed amount on each unit of stock.

37.4.3 Rule for brokerage

(i) the brokerage is added to the market value of the stock, when it is purchased
37.5 INCOME ON A STOCK

Let us illustrate the method of calculating income on a stock through examples.

Example 37.7 Find the income on 8 % stock of Rs. 46000 purchased at Rs.120

Solution: Here, face value of the stock = Rs. 46000

Income on Rs. 100 = Rs. 8

∴ Income on Rs. 46000 = \( \frac{8}{100} \times 46000 \) = Rs. 3680

Example 37.8 A man invested Rs. 36300 at Rs. 120 in 12% stock. Find his income if brokerage is Re.1

Solution: According to rule (i) above, market value = Rs.(120+1) = Rs.121

∴ Amount of stocks bought = Rs. \( \frac{36300 \times 100}{121} \) = Rs.30000

∴ Income = Rs. \( \frac{30000 \times 12}{100} \) = Rs.3600

Example 37.9 What amount of 9 % stock will produce an annual income of Rs.16200 after paying an income tax of 10% on the dividend?

Solution: Income on Rs. 100 stock = Rs. 9

Income tax = Rs. \( \frac{9 \times 10}{100} \) = Rs.0.90

∴ Net income on Rs.100 = Rs.(9.0 – 0.9) = Rs. 8.10

If the income is Rs. 8.10, then investment = Rs. 100

If income is Rs. 16200, then investment = Rs. \( \frac{1000 \times 16200}{81} \) = Rs. 200000

37.6 MARKET VALUE OF A STOCK

If the face value of a stock is given its market value can be found by finding the market value of each unit of stock. Let us illustrate is through examples.

Example 37.10 How much money should be invested to purchase Rs. 9600 stock at 95 ?

Solution: Market value of Rs. 100 stock = Rs. 95

∴ Market value of Rs. 9600 stock = Rs. \( \frac{95 \times 9600}{100} \) = Rs. 9120
**Example 37.11** A man sells Rs. 4250 of 8 % stock at 96 and invests the proceeds in 12% stock at 102. How much stock does he hold now?

**Solution** : A stock of Rs. 100 is sold for Rs. 96

∴ A stock of Rs. 4250 is sold for Rs. \( \frac{96 \times 4250}{100} \) = Rs. 4080

In the second case
An investment of Rs. 102 gets a stock of Rs. 100

∴ Investment of Rs.4080 gets a stock of \( \frac{100 \times 4080}{102} \) = Rs. 4000

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**37.7 SALE AND PURCHASE OF STOCKS**

The market value of stocks go on changing according to market conditions. Some stockholders sell their stocks and reinvest the proceeds in a more beneficial stocks giving more income.

Let us see this through examples.

**Example 37.12** A man bought Rs. 12000 of 10% stock at 92 and sold it when the price rose to Rs. 98. Find his total gain and gain percent.

**Solution** : Investment in buying Rs. 12000 stock = Rs. \( \frac{92 \times 12000}{100} \) = Rs.11040

Amount received by selling the stock = Rs. \( \frac{98 \times 12000}{100} \) = Rs. 11760

Gain = Rs. (11760-11040) = Rs.720

∴ Gain percent = \( \frac{720}{11040} \times 100 \) = 6.52

**Example 37.13** A man invests Rs. 28000 in 7 % stock at 98 and sells it when the price rose to Rs. 105. He reinvests the sale proceeds in 12% stock at 120. Find the change in his income.

**Solution** : Income from first stock = Rs. \( \frac{7 \times 28000}{98} \) = Rs. 2000

Amount realised from selling the stock = Rs. \( \frac{105 \times 28000}{98} \) = Rs. 30000

Income from second stock = Rs. \( \frac{30000 \times 12}{120} \) = Rs. 3000

∴ Increase in income = Rs. (3000-2000) = Rs.1000

**Example 37.14** Ram Lal sells 450 shares of Rs. 10 of a company at Rs. 18 each, which pays a dividend of 9% and then invests the proceeds of this sale in the purchase of Rs.5 shares of
another company at Rs.4.50 each, giving a dividend of $\frac{3}{2}$%. Find the change in his income.

**Solution**: Dividend on 450 shares = Rs. \( \frac{450 \times 10 \times 9}{100} \) = Rs. 405

Selling price of 450 shares = Rs. \((450 \times 18)\) = Rs.8100

Number of shares of second company bought = \( \frac{8100 \times 2}{9} \) = 1800

∴ Income from second company = Rs. \( \frac{1800 \times 5 \times 7}{100 \times 2} \) = Rs.315

∴ There is a decrease of Rs.(405–315) = Rs.90 in his income

### 37.8 DIFFERENT STOCKS - PART INVESTMENT

For maximising income, an investor can invest his capital in a number of different stocks. His total income will be the sum of the incomes from different stocks. Conversely, if the respective incomes are given, the investment in different stocks can also be determined.

**Example 37.15** Mohan invested a part of Rs.15000 in 5 % stock at 90 and the remaining in 7% stock at 120. If his total income from the stocks is Rs. 855, find the respective investments in different stocks.

**Solution**:

(i) Let the investment in 5 % stock = Rs. x

(ii) The investment in 7% stock = Rs. \((15000–x)\)

∴ Income from (i) stock = Rs. \( \frac{x \times 5}{90} \) = Rs. \( \frac{x}{18} \)

Income from (ii) stock = Rs. \((15000 – x)\) \( \frac{7}{120} \)

∴ Total income = 855 = \( \frac{x}{18} + \frac{105000 – 7x}{120} \)

or

855 \times 360 = 20 \times 18 + 105000 \times 3 – 21 \times x

∴ x = 315000 – 307800

= 7200

∴ Amount invested in 5 % stock = Rs. 7200

Amount invested in 7 % stock = Rs. \((15000 – 7200)\) = Rs. 7800

**Example 37.16** A invested Rs. 188000, partly in 6 % stock at 88 and the remaining in 5 % stock at 99. If the incomes derived from both the stocks are the same, find the respective investments in two stocks.
Shares and Debentures

Solution: Let the investment in 6% stock at 88 be Rs. x

∴ The investment in 5% stock at 99 = Rs. (188000 − x)

Income from first stock = Rs. \( \frac{x \times 6}{88} \) ... (i)

Income from second stock = Rs. \( \left(\frac{188000 - x}{99}\right) \times \frac{5}{99} \) ... (ii)

It is given that (i) = (ii)

\[ \frac{6x}{88} = \frac{(188000 - x) \times 5}{99} \]

or

\[ 27x = 188000 \times 20 - 20x \]

\[ 47x = 188000 \times 20 \]

\[ \Rightarrow x = 80000 \]

∴ Investment in 6% stock at 88 = Rs. 80000

and, investment in 5% stock at 99 = Rs. 108000

Example 37.17 Which is the better investment 14% stock at 95 or 15% stock at 105

Solution: Let the investment in each case be Rs. \( (95 \times 105) \)

Income in I case = Rs. \( \frac{14}{95} \times (95 \times 105) = Rs. 1470 \)

Income in II case = Rs. \( \frac{15}{105} \times (95 \times 105) = Rs. 1425 \)

∴ Income in I case > Income in II case

∴ I st case is a better investment

CHECK YOUR PROGRESS 37.2

1. Find the income on
   (a) 8% stock of Rs. 50000 purchased at Rs. 110
   (b) 16% stock of Rs. 14000 purchased at Rs. 130

2. Find the income received by investing
   (a) Rs. 10000 in 11% stock at 110
   (b) Rs. 36900 in 15% stock at 123

3. Renuka invested Rs. 58000 at Rs. 115 in 10% stock. Find her income if the brokerage is Re. 1

4. How much money should be invested to get an income of Rs. 3750 from \( 7\frac{1}{2} \% \) stock at 90 (Brokerage 2%)
5. A man sells Rs. 6250, 8 % stock at 104 and invests the proceeds in 12% stock at 130. How much stock does the man hold now?

6. A man bought Rs. 12500 of 8 % stock at Rs. 95 and sold it when it rose to Rs. 107. Find his total gain and gain percent [ Brokerage : Re. 1]

7. Which of the following is a better investment?
   (i) 9 % stock at 91 or 12 % stock at 121
   (ii) 11 % stock at 110 or 5 % stock at 60

8. A person invested Rs. 18000 in 8 % at 90 and sold the stock at 95 and invested the proceeds in 12 % stock, increasing his income by Rs. 680. At what price did he buy the latter stock?

9. Vandana invested Rs. 12000 partly in 3 % stock at 75 and the remaining in 4 % stock at 96. If the total income from both the investments is Rs. 492, find the investment in each stock.

37.9 DEBENTURES

The capital is not only raised through shares, it is sometimes raised through loans, taken in the form of debentures.

A debenture is a written acknowledgment of a debt taken by a company. It contains a contract for the repayment of principal sum by some specific date and payment of interest at a specified rate irrespective of the fact, whether the company has a profit or loss. Debenture holders are, therefore, creditors of the company. Of course, they do not have any right on the profits declared by the company. Like shares, debentures can also be sold in or purchased from the market and all the terms used for shares also apply in this case; with the same meanings.

Let us take some examples.

**Example 37.18** Find the income percent of a buyer on 10 % debentures of face value Rs.100, available in the market at Rs. 125.

**Solution** : Income on Rs. 125 is Rs. 10

\[
\text{Income on Rs. 100} = \frac{10}{125} \times 100 = Rs. 8
\]

\[
\therefore \quad \text{Income, in percents, on debentures} = 8\%
\]

**Example 37.19** Shama has 1000 shares of par value Rs. 10 each of a company and 200 debentures of par value Rs. 100 each. The company pays an annual dividend of 10% and an interest of 15% on debentures. Find the total income of Shama and rate of return on her investment.

**Solution** : Dividend on 1000 shares = Rs. \( \left( \frac{1000 \times 10 \times 10}{100} \right) = Rs. 1000 \)

Annual interest on 200 debentures = Rs. \( \left( \frac{200 \times 100 \times 15}{100} \right) = Rs. 3000 \)
Shares and Debentures

\[ \therefore \text{Total income of Shama} = 4000 \]
\[ \text{Total investment of Shama} = (1000 \times 10 + 200 \times 100) = 30000 \]
\[ \therefore \text{Rate of return} = \left( \frac{4000 \times 100}{30000} \right) \% = 13.33 \% \]

CHECK YOUR PROGRESS 37.3

1. Find the percent income on 10% debentures of face value Rs. 120 available in the market for Rs. 150

2. Find the income percent on 10% debentures of face value Rs. 90 and available in the market for Rs. 120

3. Rama has 500 shares of par value Rs. 10 each and 100 debentures of par value Rs. 100 each of a company. The company pays an annual dividend of 12% on the shares and 15% interest on debentures. Find the total income of Rama and her rate of interest on her investment.

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LET US SUM UP

- Some like minded people join together, to start a big industry and form a Joint Stock company, a Company registered under Companies Act
- Shares are some convenient parts of the capital usually of Rs. 10 or Rs. 100 denomination.
- The Company invites the public to invest by purchasing shares of the company through public notices. Before that the company issues a prospectus of the company which details the objectives, its plus - points and weaknesses and then invites public to invest in the company.
- An individual who purchases/holds the share/shares of the company is called its shareholder.
- The company issues a share certificate to the share holder indicating the number of shares purchased and the par value of each share.
- The original value of the share fixed by the company is called its par value/nominal value/face value.
- The part of profit distributed by the company to its shareholders is called the dividend.
- Preferred shares are those on which a fixed percent of dividend is to be paid, if the profit is left after paying for interest, working expenses, taxes, etc.
- Ordinary shares are the shares on which dividend is paid only after it is paid to preferred share holders. For that reason there is no fixed percentage of dividend to ordinary share holders.
- The shares, as other commodities, can also be purchased from/sold in the market. This is done through an agent called broker and his charge is called brokerage. The brokerage is
generally expressed as percent of the par value of a share or fixed charge per share. The value at which a share can be sold/purchased form the market is called its market value.

- If the market value is greater than face value, the share is said to be at premium (or above par). If market value is less than face value the share is said to be below par (or at discount). If market value of a share equals its face value, it is said to be at par.

- **Stock** = Par value of a share × Number of shares.

- Stocks are referred to by their rates of dividend.

- Income on stocks in different cases can be calculated by the use of unitary method as concepts used.

- A debenture is a written acknowledgment of a debt taken by a company. This is issued by a pre-decided date and the interest on it is paid irrespective of the fact that the company is in loss or profit.

- Like shares, debentures can also be sold in or purchased from the market.

### SUPPORTIVE WEB SITES

- [http://www.wikipedia.org](http://www.wikipedia.org)
- [http://mathworld.wolfram.com](http://mathworld.wolfram.com)

### TERMINAL EXERCISE

1. Find the dividend received annually on 1250 shares of par value Rs. 10 each at 12 % payable annually.

2. Find the dividend received annually on 250 shares of par value Rs.100 each at 6 % payable semi-annually.

3. A company with 20000 shares of par value of Rs.50 each, shows a profit of Rs. 300000. If the dividend declared by the company is 5 %, then find.
   (i) the total dividend paid by the company
   (ii) the dividend received by a person holding 200 shares

4. A man buys 500 shares of a company, of par value Rs. 100 each, at Rs.150 each and sells each share at a premium of Rs. 75 each. Find his gain.

5. A man purchased 200 shares of a company, of par value of Rs.10 each paying an annual dividend of 12% at such a price that the gets 10% on his investment. Find the market price of a share.

6. Rama sells 2000 shares of a company A, of par value Rs.100 each paying a dividend of 12%, at Rs.126. She invested the proceed in another company B's shares of par value 25, at Rs. 30 each and giving 20% dividend. Find
   (i) the number of shares of company B purchased by Rama
   (ii) change in her dividend income
7. (i) Find the income on 6% stock of Rs.60000 purchased at Rs.120
(ii) Find the income on 16% of Rs. 14000 purchased at Rs. 130

8. Find the income received by investing
(i) Rs. 9595 in 7% stock at 95
(ii) Rs. 36900 in 15% stock at 123

9. How much money should I invest to get an income of Rs.4500 from 10% stock at 94
   [Brokerage ; Re. 1]

10. A man bought Rs. 12450 of 7% stock at 95 and sold it when its price rose to Rs. 107.
    How much stock does the man hold now (Brokerage ; Re.1)

11. Which is the better investment
   (i) 10% stock at 110 or 5% stock at 60 ?
   (ii) 10% stock at 90 or 11% stock at 103 ?

12. A person invested Rs. 9000 in 9% stock at 90 and sold the stock at 95. He invested the
    proceeds in 12% stock thereby increasing his income by Rs. 240. At what price did he
    buy the second stock ?

13. Yogesh invested Rs. 94640 partly in 8% stock at 104 and remaining in 5% stock at 91.
    If his total income from both stocks is Rs.6240, find the respective investment in two
    stocks.

14. A invested Rs. 47120 partly in 5% stock at 75 and remaining in 6% stock at 96. If the
    income from two stocks is equal, find the respective investment in each stock.

15. Find the income percent of a buyer on 12% debentures of face value Rs. 100, brought
    from the market for Rs. 144

16. Ram Lal had 1200 shares of par value Rs. 10 each and 400 debentures of par value
    Rs.100 each of a company. The company pays an annual dividend of 10% on shares and
    12% interest on debentures. Find the total annual income of Ram Lal and return on his
    income.

17. Find the income percent on 8% debentures of face value Rs. 80, available in the market
    at Rs. 120.

18. A man invests half of his money in $\frac{13}{2}\%$ stock at 120 and the other half in $\frac{10}{2}\%$
    stock at 90. Had he invested his money to buy equal amount of each stock, he would
    have got Rs. 4.50 less of income. Find his total investment.

19. A person holds 60 debentures of a company of par value of Rs.500 on which 15%
    interest is paid annually. When the price rises to Rs.600, the person sells them and investes
    the half of sale proceeds in 8% stock at 90. He invests the other half in 10% stock at 80
    of par value Rs.100 each.
    Find the change in income.
ANSWERS

CHECK YOUR PROGRESS 37.1

1. Rs. 540  
2. Rs. 5000  
3. 16 %  
4. (i) 5.7 % (ii) Rs. 814  
5. Rs.8000  
6. Rs. 200  
7. Gain : Rs. 420  
8. (i) 6000 shares, (ii) Rs. 2500 more

CHECK YOUR PROGRESS 37.2

1. (a) Rs. 4000  
(b) Rs.2240  
2. (a) Rs.1000  
(b) Rs. 4500  
3. Rs. 5000  
4. Rs. 45900  
5. Rs.5000  
6. Rs. 1250 ; 10.42 %  
7. (i) Second  
(ii) First  
8. At par  
9. Rs. 4800, Rs. 7200

CHECK YOUR PROGRESS 37.3

1. 8%  
2. 7.5 %  
3. Rs. 2100 ; 14 %

TERMINAL EXERCISE

1. Rs. 1500  
2. Rs. 3000  
3. (i) Rs. 50000 (ii) Rs. 500  
4. Rs. 12500  
5. Rs. 12 per share  
6. (i) 8400  
(ii) Rs. 18000  
7. (i) Rs. 3600  
(ii) Rs.2240  
8. (i) Rs. 707  
(ii) Rs.4500  
9. Rs. 42750  
10. Rs. 1245 more  
11. (i) First  
(ii) First  
12. At par  
13. Rs. 47320 each  
14. Rs. 22800 ; Rs. 24320  
15. $8 \frac{1}{3}$ %  
16. Rs. 6000 ; $11 \frac{7}{13}$ %  
17. $5 \frac{1}{3}$ %  
18. Rs. 15120  
19. Rs. 650 loss