

Exercise 3(B)

A man buys 75, Rs 100 shares paying 9 percent dividend. He buys shares at such a price that he gets 12 percent of his money. At what price did he buy the shares?

Solution:

Given,

Nominal value of 1 share = Rs100

So, the nominal value of 75 shares = $100 \times 75 = \text{Rs } 7,500$

And, Dividend % = 9 %

Thus, dividend = 9 % of Rs 7,500

$$= \frac{9}{100} \times \text{Rs } 7,500 = \text{Rs } 675$$

Let's consider the market price of 1 share = Rs y

Then the market price of 75 shares = Rs 75y

And, Profit % on investment = 12%

$$12\% \text{ of } 75y = \text{Rs } 675$$

$$\frac{12}{100} \times 75y = \text{Rs } 675$$

$$y = \text{Rs } 75$$

Therefore, the price of his shares is Rs 75 each

1. By purchasing Rs 25 gas shares for Rs 40 each, a man gets 4 percent profit on his investment. What rate percent is the company paying? What is his dividend if he buys 60 shares?

Solution:

Given,

Nominal value of 1 share = Rs25

Market value of 1 share = Rs40

And, the profit% on investment = 4%

Then profit on 1 share = 4% of Rs 40 = Rs 1.60

Thus,

$$\text{Dividend \%} = \frac{1.60}{25} \times 100 = 6.4\%$$

Next,

If the number of shares purchased = 60

Then, the dividend on 60 shares = $60 \times \text{Rs } 1.60 = \text{Rs } 96$

2. Hundred rupee shares of a company are available in the market at a premium of Rs 20. Find the rate of dividend given by the company, when a man's return on his investment is 15%.

Solution:

Given,

Nominal value of 1 share = Rs 100

And the market value of 1 share = $\text{Rs } 100 + \text{Rs } 20 = \text{Rs } 120$ (as the premium is Rs 20)

Also given, the profit % on investment of 1 share = 15%

Then profit = 15% of Rs 120 = Rs 18

Therefore,

$$\text{Dividend \%} = \frac{18}{100} \times 100 = 18\%$$

3. Rs 50 shares of a company are quoted at a discount of 10%. Find the rate of dividend given by the company, the return on the investment on these shares being 20 percent.

Solution:

Given,

Nominal value of 1 share = Rs 50

Discount on each share = 10 %

So, the market value of 1 share = Rs50 - 10% of Rs50

= Rs 50 – Rs 5 = Rs 45

Also given, Profit % on investment = 20%

Then the profit on 1 share = 20% of Rs 45 = Rs 9

Therefore,

Dividend % = $\frac{9}{50} \times 100 = 18 \%$

4. A company declares 8 percent dividend to the shareholders. If a man receives Rs 2,840 as his dividend, find the nominal value of his shares.

Solution:

Given,

Dividend % = 8 %

And, the dividend is Rs 2,840

Let the nominal value of shares be Rs y

Then,

8% of y = Rs 2,840

$(\frac{8}{100}) \times y = \text{Rs } 2,840$

y = Rs 35,500

Thus, the nominal value of the man's share is Rs 35,500

5. How much should a man invest in Rs 100 shares selling at Rs 110 to obtain an annual income of Rs 1,680, if the dividend declared is 12%?

Solution:

From the question,

Nominal value of 1 share = Rs100

And, the market value of 1 share = Rs110

Let the number of shares purchased = n

Then the nominal value of n shares = Rs (100n)

Dividend % = 12%

Given that the dividend = Rs1,680

12 % of 100n = Rs 1,680

$\frac{12}{100} \times 100n = \text{Rs } 1680$

$$\Rightarrow n = \frac{1,680 \times 100}{12 \times 100} = 140$$

So, the market value of 140 shares = $140 \times 110 = \text{Rs } 15,400$

Therefore the investment of the man should be Rs 15,400

6. A company declares a dividend of 11.2% to all its share-holders. If its Rs 60 share is available in the market at a premium of 25%, how much should Rakesh invest, in buying the shares of this company, in order to have an annual income of Rs 1,680?

Solution:

Given,

Nominal value of 1 share = Rs60

Market value of 1 share = Rs 60 + 25% of Rs 60
= Rs 60+ Rs 15= Rs 75

Let the number of shares purchased be n

Then, the nominal value of n shares = Rs (60n)

Dividend % = 11.2%

Given that the dividend = Rs 1,680

So, 11.2% of 60n = Rs 1,680

$11.2/100 \times 60n = \text{Rs } 1,680$

$$\Rightarrow n = \frac{1,680 \times 100}{11.2 \times 60} = 250$$

Then, the market value of 250 shares will be = $250 \times 75 = \text{Rs } 18,750$

Therefore, the investment of Rakesh should be Rs 18,750

7. A man buys 400, twenty-rupee shares at a premium of Rs 4 each and receives a dividend of 12%. Find:

(i) the amount invested by him.

(ii) his total income from the shares.

(iii) percentage return on his money.

Solution:

Given,

The nominal value of 1 share = Rs 20

Market value of 1 share = Rs 20 + Rs 4 = Rs 24

No. of shares purchased = 400

Nominal value of 400 shares = $400 \times 20 = \text{Rs } 8,000$

(i) Market value of 400 shares = $400 \times 24 = \text{Rs } 9,600$

(ii) Dividend% = 12%

Dividend = 12% of Rs 8,000

$$= \frac{12}{100} \times \text{Rs } 8,000 = \text{Rs } 960$$

Thus, the total income from the shares is Rs 960

(iii) Percentage return on his money is

Return % = $\frac{\text{income}}{\text{investment}} \times 100$

$$= \frac{960}{9600} \times 100 = 10\%$$

8. A man buys 400, twenty-rupee shares at a discount of 20% and receives a return of 12% on his money. Calculate:

- (i) the amount invested by him.
(ii) the rate of dividend paid by the company.

Solution:

Given,

The nominal value of 1 share = Rs 20

Market value of 1 share = Rs 20 – (20% of Rs 20)
= Rs 20 – Rs 4 = Rs 16

Number of shares purchased = 400

Nominal value of 400 shares = 400 x 20 = Rs 8,000

(i) Market value of 400 shares = 400 x 16 = Rs 6,400

(ii) Return% = 12%

Income = 12% of Rs 6,400
= $\frac{12}{100} \times \text{Rs } 6,400 = \text{Rs } 768$

And,

(iii) The rate of dividend is

Dividend % = $\left(\frac{\text{income}}{\text{nominal value}}\right) \times 100$
= $\left(\frac{768}{8000}\right) \times 100 = 9.6\%$

9. A company, with 10,000 shares of Rs 100 each, declares an annual dividend of 5%.

(i) What is the total amount of dividend paid by the company?

(ii) What should be the annual income of a man who has 72 shares in the company?

(iii) If he received only 4% of his investment, find the price he paid for each share.

Solution:

Given,

Nominal value of 1 share = Rs 100

Then, nominal value of 10,000 shares = 10,000 x Rs 100 = Rs 10,00,000

(i) Dividend % = 5%

Dividend = 5% of Rs 10,00,000
= $\frac{5}{100} \times \text{Rs } 10,00,000 = \text{Rs } 50,000$

Thus, a dividend amount of Rs 50,000 is paid by the company.

(ii) Nominal value of 72 shares = Rs 100 x 72 = Rs 7,200

Dividend = 5% of Rs 7,200
= $\frac{5}{100} \times \text{Rs } 7,200 = \text{Rs } 360$

Thus, the annual income of the man is Rs 360

(iii) Let's consider the market value of 1 share = Rs y

Then market value of 10,000 shares = Rs (10,000y)

And the return% = 4%

So, 4% of Rs (10,000y) = Rs 50,000
= $\frac{4}{100} \times 10,000y = \text{Rs } 50,000$

y = Rs 125

Thus, the price for each share is Rs 125