

① Sparsh buys Rs. 100 shares at Rs. 20 premium in a company paying 15% dividend. Find :-

- (i) the market value of 600 shares.
- (ii) his annual income.
- (iii) his percentage income.

$$N.V. = \text{Rs. } 100, M.V. = \text{Rs. } 120, \text{Div.} = 15\%$$

$$(i) M.V. \text{ of } 600 \text{ shares} = 120 \times 600 = \text{Rs. } 72,000$$

$$(ii) \text{Annual income} = (15\% \text{ of } 100) \times 600 = (15 \times 600) \\ = \text{Rs. } 9000$$

$$(iii) \% \text{ income} = \frac{\text{Income}}{\text{Inv.}} \times 100\% = \frac{9000}{87200} \times 100\% \\ = 12.5\%$$

② Find the dividend due at the end of a year on 250 shares of Rs. 50 each, if the half-yearly dividend is 4% of the value of the share.

$$\text{No. of Shares} = 250, N.V. = \text{Rs. } 50, \text{Div.} = 4\%$$

$$\therefore \text{Half - yearly dividend} = (4\% \text{ of } 50) \times 250 \\ = 2 \times 250 = \text{Rs. } 500$$

$$\therefore \text{Dividend at the end of yr.} = 500 \times 2 \\ = \boxed{\text{Rs. } 1000}$$

3 A man bought 500 shares, each of face value of Rs. 10, of a certain business concern & during the first year, after purchase, receives Rs. 400 as dividend on his shares. Find the rate of dividend on the shares.

$$\text{No. of shares} = 500, \text{ N.V.} = \text{Rs. } 10$$

$$\text{Total dividend} = \text{Rs. } 400$$

$$\text{Let the rate of dividend} = x\%.$$

$$(x\% \text{ of } 10) \times 500 = 400$$

$$\frac{x}{100} \times 10 \times 500 = 400$$

$$x = 8\%$$

$$\therefore \text{Rate of dividend} = \boxed{8\%}$$

Q. Simardeep invests Rs. 9000 in a company paying a dividend of 6% p.a. when a share of face value Rs. 100 stands at Rs. 150. What is her annual income? If she sells 50% of her shares at Rs. 200 each, what is her gain in this transaction?

Investment = Rs. 9000, Div. = 6% p.a.

N.V. = Rs. 100 M.V. = Rs. 150

Annual income = (6% of 100) × No. of shares

$$\text{No. of shares} = \frac{\text{Inv.}}{\text{M.V.}} = \frac{900}{150} = 60$$

$$= \frac{6}{100} \times 100 \times 60 = \boxed{\text{Rs. } 360}$$

No. of shares sold = 50% of 60 = 30

Profit on 1 share = 200 - 150 = Rs. 50

$$\therefore \text{Total profit} = \text{Rs. } 50 \times 30 = \boxed{\text{Rs. } 1500}$$

Q. A man wants to buy 62 shares available at Rs. 132 (Par value being Rs. 100).

(i) How much he will have to invest?

(ii) If the dividend is 7.5%, what will be his annual income?

(iii) If he wants to increase his annual income by Rs. 150, how many extra shares should he buy?

No. of shares = 62, M.V. = Rs. 132, N.V. = Rs. 100

(i) Investment = Rs. $132 \times 62 = \boxed{\text{Rs } 8184}$

(ii) Annual income = $(7.5\% \text{ of } 100) \times 62$
 $= 7.5 \times 62 = \boxed{\text{Rs } 465}$

(iii) Income on one share = Rs. 7.50

∴ No. of shares required to increase the income by Rs. 150 = $\frac{150}{7.50} = \boxed{20}$

- Q. A company with 4000 shares of nominal value of Rs. 110 each declares an annual dividend of 15%. Calculate :-
- the total amount of dividend paid by the company,
 - the annual income of Kshitij who holds 88 shares in the company?
 - if he received only 10% on his investment,

find the price Krhitij paid for each share.

No. of shares = 4000, N.V. = Rs. 110, Div. = 15%.

(i) Div. Paid by the company = $(15\% \text{ of } 110) \times 4000$
 $= \frac{15}{100} \times 110 \times 4000 = 6000 \times 11$
 $= \text{Rs. } 66000$

(ii) Income = $(15\% \text{ of } 110) \times 88 = \frac{15}{100} \times 110 \times 88$
 $= 3 \times 484 = \text{Rs. } 1452$

(iii) Income % on M.V. = Div. % on N.V.

10% of M.V. = 15% of 110

M.V. = $\frac{15}{10} \times 110 = \boxed{\text{Rs. } 165}$

Q. A man sells 60, Rs. 15 shares of a company paying 12% dividend at Rs. 21 each & invests the proceeds in Rs. 6 shares of another company at Rs. 9 each. Find his change in income, if the second company pays 8% dividend.

(I) No. of shares = 60, N.V. = Rs. 15, Div. = 12%
M.V. = Rs. 21

Total income = $(12\% \text{ of } 15) \times 60 = \frac{12}{100} \times 15 \times 60$
 $= \boxed{\text{Rs. } 108}$

Money obtained by selling the shares.

$$= \text{Rs. } 21 \times 60 = \text{Rs. } 1260$$

(II) Investment = Rs. 1260, N.V. = Rs. 6, M.V. = Rs. 9
Div. = 8%.

$$\text{No. of shares} = \frac{\text{Inv.}}{\text{M.V.}} = \frac{1260}{9} = 140$$

$$\begin{aligned}\text{Total income} &= (8\% \text{ of } 6) \times 140 = \frac{8}{100} \times 6 \times 140 \\ &= \frac{48 \times 14}{10} = 67.2\end{aligned}$$

$$\therefore \text{Change in income} = 108 - 67.20 = \boxed{\text{Rs. } 40.80}$$

Q. Ashok & Sandeep invest Rs. 18000 each in buying shares of 2 different companies

Ashok buys 7.5% Rs. 100 shares at a discount of 20%, whereas Sandeep buys Rs. 50 shares at a premium of 20%. If both receive equal dividend at the end of the year. Find the rate of dividend received by Sandeep.

	Ashok	Sandeep
Inv. =	18000	18000
DIV. =	7.5%	x%
N.V. =	Rs. 100	Rs. 50
M.V. =	Rs. 80	Rs. 60

$$\text{Div.} = (7.5\% \text{ of } 100) \times \frac{18000}{80} = (x\% \text{ of } 50) \times \frac{18000}{60}$$

Since both receives the equal dividend

$$\frac{7.5}{100} \times 2 \times \frac{18000}{80} = \frac{x}{100} \times 50 \times \frac{18000}{60}$$

$$\frac{15}{8} = \frac{x}{6} \Rightarrow x = \frac{15 \times 6}{8} = \frac{45}{4} = 11.25\%$$

Q. Ronald had 1000 shares of a company with a face value of Rs. 40 & paying 8% dividend. He sold some of these shares at a discount of 10% & invested the proceeds in Rs. 20 shares at a premium of 50% & paying 12% dividend. If the change in his income is Rs. 192. Find the number of shares sold by Ronald.

Let the number of shares sold = x

(I) N.V. = Rs. 40, Div. = 8%.

Div. on one share = 8% of 40 = Rs. 3.2

Total dividend = Rs. 3.2x

S.P. of 1 share = 40 - 10% of 40 = Rs. 36

\therefore Money obtained = Rs. $36x$

(II) Investment = Rs. $36x$

N.V. = Rs. 20, M.V. = Rs. 30, Div. = 12%

\therefore Dividend = $(12\% \text{ of } 20) \times \frac{36x}{30}$

$$= \frac{12}{100} \times 20 \times \frac{\frac{36x}{30}}{20} = \frac{288x}{100} = \boxed{\frac{72x}{25}}$$

Since change in income = 192

$$\therefore \frac{36x}{10} - \frac{72x}{25} = 192$$

$$\frac{160x - 144x}{50} = 192$$

$$16x = \frac{12}{192} \times 50$$

$$x = 60$$

∴ No. of shares sold = 600

H.W. → 3 (A) → φ 7 to 15

3 (B) → φ 1 to 13

3 (C) → φ 1 to 13