Chapter 4. Shares and Dividends

Ex 4.1

Answer 1.

a) 500 shares of Rs 75 each at a premium of Rs 17.

No. Of shares to be purchased = 500

Rs 75 shares at a premium of Rs 17 = Rs (75+17) = Rs 92

Therefore, money required to purchase 500 shares = Rs 92 x 500
=Rs 46,000.

b) 315 shares of Rs 60 each at a premium of Rs 12.

No. Of shares to be purchased = 315

Rs 60 shares at a premium of Rs 12 = Rs (60+12) = Rs 72

Therefore, money required to purchase 315 shares = Rs 72 x 315
=Rs 22,680.

c) 600 shares of Rs 25 each at a discount of Rs 3.

No. Of shares to be purchased = 600

Rs 25 shares at a discount of Rs 3 = Rs (25-3) = Rs 22

Therefore, money required to purchase 600 shares = Rs 22 x 600
=Rs 13,200.

d) 425 shares of Rs 10 each at a discount of Rs 1.50.

No. Of shares to be purchased = 425

Rs 10 shares at a discount of Rs 1.50 = Rs (10-1.50) = Rs 8.50

Therefore, money required to purchase 425 shares = Rs 8.50 x 425
=Rs 3,612.50.

e) 250 shares of Rs 20 each at par.

No. Of shares to be purchased = 250

Cost of each share = Rs 20

Therefore, money required to purchase 250 shares = Rs 20 x 250
= Rs 5,000.

f) 150 shares of Rs 100 each at a premium of 12%.

No. Of shares to be purchased = 150

Rs 100 shares at a premium of 12% = Rs (100+12% of Rs 100) = Rs (100+12) = Rs 112

Therefore, money required to purchase 150 shares = Rs 112 x 150
=Rs 16,800.

g) 220 shares of Rs 75 each at a premium of 15%.

No. Of shares to be purchased = 220

Rs 75 shares at a premium of 15% = Rs (75+15% of Rs 75) = Rs (75+11.25) = Rs 86.25

Therefore, money required to purchase 220 shares = Rs 86.25 x 220 =Rs 18,975.

h) 340 shares of Rs 125 each at a discount of 20%.

No. Of shares to be purchased = 340

Rs 125 shares at a discount of 20% = Rs (125 - 20% of Rs 125) = Rs(125 - 25) = Rs 150

Therefore, money required to purchase 340 shares = Rs 100 x 340 =Rs 34,000.

i) 750 shares of Rs 100 each at a discount of 24%.

No. Of shares to be purchased = 750

Rs 100 shares at a discount of 24% = Rs (100 - 24% of Rs 100) = Rs(100 - 24) = Rs 76

Therefore, money required to purchase 750 shares = Rs 76 x 750 =Rs 57,000.

j) 116 shares of Rs 125 each at par.

No. Of shares to be purchased = 116

Cost of each share = Rs 125

Therefore, money required to purchase 116 shares = Rs 125 x 116 =Rs 14,500.

Answer 2.

a) 180 shares of Rs 50 each paying 12% dividend.

No. Of shares = 180

Price of each share = Rs 50

Therefore, Total investment = Rs (50 × 180) = Rs 9,000

Dividend = 12%

Hence Annual Income $= \text{Rs}\frac{12 \times 9,000}{100} = \text{Rs } 1,080$

b) 424 shares of Rs 125 each paying 8% dividend.

No. Of shares = 424

Price of each share = Rs 125

Therefore, Total investment = Rs (125 × 424) = Rs 53,000

Dividend = 8%

Hence Annual Income $= \text{Rs}\frac{8 \times 53,000}{100} = \text{Rs } 4,240$

c) 60 shares of Rs 100 each available at Rs 75 and paying 5% dividend.

No. of shares = 60

Price of each share = Rs 100

Face value of 60 shares = Rs(100 × 60) = Rs 6,000

Dividend = 5%

Therefore, Annual Income = Rs $\frac{5 \times 6,000}{100}$ = Rs 300.

d) 120 shares of Rs 50 each available at Rs 62 and paying 13% dividend.

No. of shares = 120

Price of each share = Rs 50

Face value of 120 shares = Rs(50 × 120) = Rs 6,000

Dividend = 13%

Therefore, Annual Income = Rs $\frac{13 \times 6,000}{100}$ = Rs 780.

Answer 3.

a) Rs 7,225 paying 12% when a Rs 100 share is available at 15% discount.

Investment = Rs 7,225

Nominal value of each share = Rs 100

Market value = Rs(100 – 15% of Rs 100) = Rs (100-15) = Rs 85

No. of shares purchased = $\frac{7,225}{85} = 85$

Face value of 85 shares = Rs 100 x 85 = Rs 8,500

Dividend = 12%

Therefore, Annual Income = $\frac{12 \times 8,500}{100}$ = Rs 1,020

Hence, percentage income = $\frac{1,020 \times 100}{7,225} = 14.117\% = 14.12\%$

b) Rs 7,168 paying 15% when a Rs 80 share is available at 40% premium.
Investment = Rs 7,168

Nominal value of each share = Rs 80

Market value = Rs(80 + 40% of Rs 80) = Rs (80+32) = Rs 112

No. of shares purchased = $\frac{7,168}{112} = 64$

Face value of 64 shares = Rs 80 x 64 = Rs 5,120

Dividend = 15%

Therefore, Annual Income = $\frac{15 \times 5,120}{100}$ = Rs 768

Hence, percentage income = $\frac{768 \times 100}{7,168} = 10.71\%$

c) Rs 36,250 in a Rs 125 share paying 8% and available at a premium of Rs 20.
Investment = Rs 36,250

Nominal value of each share = Rs 125

Market value = Rs (125 + Rs 20) = Rs 145

No. of shares purchased = $\frac{36,250}{145} = 250$

Face value of 250 shares = Rs 125 x 250 = Rs 31,250

Dividend = 8%

Therefore, Annual Income = $\frac{8 \times 31,250}{100}$ = Rs 2,500

100

Hence, percentage income = $\frac{2,500 \times 100}{36,250}$ = 6.9%

d) Rs 12,375 in a Rs 75 share paying 4% and available at a discount of Rs 20.

Investment = Rs 12,375

Nominal value of each share = Rs 75

Market value = Rs (75 - Rs 20) = Rs 55

No. of shares purchased = $\frac{12,375}{55}$ = 225

Face value of 225 shares = Rs 75 x 225 = Rs 16,875

Dividend = 4%

Therefore, Annual Income = $\frac{4 \times 16,875}{100}$ = Rs 675

Hence, percentage income = $\frac{675 \times 100}{12,375}$ = 5.45%

Answer 4.

No. of shares = 500

Nominal value of each share = Rs 125

Face value of 500 shares = Rs (125 x 500) = Rs 62,500

Rate of dividend = 12%

Total dividend = $\frac{62500 \times 12}{100}$ = Rs 7,500

Rate of income tax = 5%

Total tax = $\frac{5 \times 7,500}{100}$ =Rs 375

Net income = Rs (7,500 – 375) = Rs 7,125

Answer 5.

No. of shares = 1200
Nominal value of each share = Rs 150

Face value of 1200 shares = Rs (150 × 1200) = Rs 1,80,000

Rate of dividend = 18%

$$\text{Total dividend} = \frac{1,80,000 \times 18}{100} = \text{Rs } 32,400$$

Rate of income tax = 8%

$$\text{Total tax} = \frac{8 \times 32,400}{100} = \text{Rs } 2,592$$

Net income = Rs (32,400 – 2,592) = Rs 29,808

Answer 6.

No. of shares = 750
Nominal value of each share = Rs 60

Face value of 750 shares = Rs (60 × 750) = Rs 45,000

Rate of dividend = 15%

$$\text{Total dividend} = \frac{45,000 \times 15}{100} = \text{Rs } 6,750$$

Rate of income tax = 6%

$$\text{Total tax} = \frac{6 \times 6,750}{100} = \text{Rs } 405$$

Net income = Rs (6,750 – 405) = Rs 6,345

Answer 7.

No. of shares = 600

Nominal value of a share = Rs 50

Investment by Mahesh = Rs (50 x 600) = Rs 30,000

Shares sold at premium = $\frac{1}{3} \times 600 = 200$

Market value of a share with Premium = Rs (50 + 20) = Rs 70

Value of 200 shares = Rs (70 x 200) = Rs 14,000 .....(i)

Shares sold at discount = 600 – 200 = 400

Market value of a share with discount = Rs (50 - 5) = Rs 45

Value of 400 shares = Rs (45 x 400) = Rs 18,000 .....(ii)

Adding (i) and (ii), gives total money Mahesh received by selling his shares = Rs (14,000 + 18,000) = Rs 32,000

Difference in selling price and cost price = Rs (32,000 -30,000) = Rs 2,000

Hence, Mahesh gained Rs 2,000

Answer 8.

Investment by Divya = Rs 50,000

Nominal value of a share = Rs 125

No. of shares purchased by Divya $= \frac{50,000}{125} = 400$

Shares sold at premium = 200

Market value of a share with Premium = Rs (125 + 24% of Rs 125)

= Rs (125 + 30) = Rs 155

Value of 200 shares = Rs (155 x 200) = Rs 31,000 .....(i)

Shares sold at discount = 200

Market value of a share with discount = Rs (125 – 20% of Rs 125)

= Rs (125 – 25) =Rs 100

Value of 200 shares = Rs (100 x 200) = Rs 20,000 .....(ii)

Adding (i) and (ii), gives total money Divya received by selling her shares = Rs (31,000 + 20,000) = Rs 51,000

Hence, Divya gained Rs 1,000

Answer 9.

Investment by Ashutosh = Rs 58,500

Price at which Ashutosh purchased one share =

Rs (150 + 30% of Rs 150) = Rs (150 + 45) = Rs 195

No. of shares purchased by Ashutosh = $\frac{58,500}{195}$ = 300

Shares sold at Rs 215 = 1/3 x 300 = 100

Selling price of 100 shares at Rs 215

= Rs (100 x 215) = Rs 21,500 .....(i)

Shares sold at Rs 195 = 1/3 x 300 = 100

Selling price of 100 shares at Rs 175

= Rs (100 x 175) = Rs 17,500 .....(iii)

Adding (i), (ii) and (iii), gives total money Ashutosh received by selling his shares = Rs (21,500 + 19,500 + 17,500) = Rs 58,500

Difference in selling price and cost price = Rs (58,500 -58,500)

= Rs 0.

Hence, Ashutosh sold his shares at no loss or no gain.

Ex 4.2

Answer 1.

Let total savings be x.

Investment in company A = 10% of $x = \frac{10}{100} \times x = \frac{x}{10}$

Investment in company B = 30% of $x = \frac{30}{100} \times x = \frac{3x}{10}$

Investment in company C = 40% of $x = \frac{40}{100} \times x = \frac{4x}{10} = \frac{2x}{5}$

Dividend given by company A = 12% of $\frac{x}{10}$

$$= \frac{12 \times x}{100 \times 10} = 0.012x \ldots\ldots\ldots (i)$$

Dividend given by company B = 15% of $\frac{3x}{10}$

$$= \frac{15 \times 3x}{100 \times 10} = 0.045x \ldots\ldots\ldots (ii)$$

Dividend given by company C = 16% of $\frac{2x}{5}$

$$= \frac{16 \times 2x}{100 \times 5} = 0.064x \ldots\ldots\ldots (iii)$$

(i) + (ii) + (iii) = Rs 3,025 .....(given)

(0.012 + 0.045 + 0.064)x = Rs 3,025

0.121x=Rs 3,025

$x = Rs\frac{3,025}{0.121} = Rs25,000$

Hence, Saurav's savings = Rs 25,000

Investment in company A = $Rs\frac{x}{10} = Rs\frac{25,000}{10} = Rs2,500$

Investment in company B = $Rs\frac{3x}{10} = Rs\frac{75,000}{10} = Rs7,500$

Investment in company C = $Rs\frac{2x}{5} = Rs\frac{50,000}{5} = Rs10,000$

Answer 2.

Let total savings be x.

Investment in 'Infosys' = 15% of $x = \frac{15}{100} \times x = \frac{3x}{20}$

Investment in 'Wipro' = 25% of $x = \frac{25}{100} \times x = \frac{x}{4}$

Investment in 'Reliance' = 35% of $x = \frac{35}{100} \times x = \frac{7x}{20}$

Dividend given by 'Infosys' = 16% of $\frac{3x}{20}$

$$= \frac{16 \times 3x}{100 \times 20} = 0.024x \ldots\ldots\ldots(i)$$

Dividend given by 'Wipro' = 18% of $\frac{x}{4}$

$$= \frac{18 \times x}{100 \times 4} = 0.045x \ldots\ldots\ldots(ii)$$

Dividend given by 'Reliance' = 20% of $\frac{7x}{20}$

$$= \frac{20 \times 7x}{100 \times 20} = 0.07x \ldots\ldots\ldots(iii)$$

(i) + (ii) + (iii) = Rs 52,125 .....(given)

(0.024 + 0.045 + 0.07)x = Rs 52,125

0.139x=Rs 52,125

$x = Rs\frac{52,125}{0.139} = Rs3,75,000$

Hence, Akanksha's savings = Rs 3,75,000

Investment in 'Infosys' = $Rs\frac{3x}{20} = Rs\frac{3 \times 3,75,000}{20} = Rs56,250$

Investment in 'Wipro' = $Rs\frac{x}{4} = Rs\frac{3,75,000}{4} = Rs93,750$

Investment in 'Reliance' = $Rs\frac{7x}{20} = Rs\frac{7 \times 3,75,000}{20} = Rs1,31,250$

Answer 3.

Total investment = Rs (24,000+30,000) = Rs 54,000

No. of shares of 'Vam Organics' $= \frac{\text{money invested}}{\text{cost of one share}} = \frac{24,000}{100} = 240$

No. of shares of 'Hero Honda' $= \frac{\text{money invested}}{\text{cost of one share}} = \frac{30,000}{100} = 300$

Dividend given by 'Vam Organics' = 12% = Rs $\frac{12 \times 24,000}{100}$ = Rs2,880

Dividend given by 'Hero Honda' = 15% = Rs $\frac{15 \times 30,000}{100}$ = Rs4,500

Total dividend earned = Rs (2,880+4,500) = Rs 7,380

Money earned by selling shares of 'Vam Organics' = Rs (95 x 240)

= Rs 22,800

Money earned by selling shares of 'Hero Honda' = Rs (90 x 300)

= Rs 27,000

Total money earned by selling shares = Rs (22,800+27,000) = Rs 49,800

Total earnings = money earned by selling shares + dividends earned

= Rs (49,800+7,380) = Rs 57,180

Tarun's earnings from the transactions = Rs (57,180-54,000)

= Rs 3,180

Answer 4.

Total investment = Rs (20,000+25,000) = Rs 45,000

Dividend given by 'Bharati Telecom' = 10% = $\text{Rs}\frac{10\times 20,000}{100}$ = Rs2,000

Dividend given by 'Satyam Infoways' = 12.5% = $\text{Rs}\frac{12.5\times 25,000}{100}$ = $\text{Rs}\frac{125\times 25,000}{10\times 100}$ = Rs3,125

Total dividend earned = Rs (2,000+3,125) = Rs 5,125

Money earned by selling shares of 'Bharati Telecom'

= Rs (20,000 – 4% of Rs 20,000)= Rs (20,000-800) = Rs 19,200

Money earned by selling shares of 'Satyam Infoways'

= Rs (25,000 - 5% of Rs 25,000) = Rs (25,000 – 1250) = Rs 23,750

Total money earned by selling shares = Rs (19,200+23,750) = Rs 42,950

Total earnings = money earned by selling shares + dividends earned = Rs (42,950+5,125) = Rs 48,075

Bhavana's earnings from the transactions = Rs (48,075-45,000)

= Rs 3,075

Answer 5.

Let Karan's investment be x.

Face value of 125 shares = Rs (100 x 125) = Rs 12,500

Dividend for 125 shares = 6% of 12,500 = $\text{Rs}\frac{6\times12,500}{100} = \text{Rs}750$

He gets Rs 750 as dividend which is equal to 4% of money invested

$\Rightarrow \frac{4x}{100} = \text{Rs}750$

$\Rightarrow 4x = \text{Rs}75,000$

$\Rightarrow x = \text{Rs}\frac{75,000}{4}$

$\Rightarrow x = \text{Rs}18,750$

Hence, Karan invested Rs 18,750.

No. of shares bought by Karan = 125

Value of a share = $\text{Rs}\frac{18,750}{125} = \text{Rs}150$

Karan bought a share for Rs 150.

Answer 6.

Let Vikram's investment be x.

Face value of 200 shares = Rs (25 x 200) = Rs 5,000

Dividend for 200 shares = 8% of Rs 5,000 = $\text{Rs}\frac{8\times5,000}{100} = \text{Rs}400$

He gets Rs 400 as dividend which is equal to 10% of money invested

$\Rightarrow \frac{10x}{100} = \text{Rs}400$

$\Rightarrow x = \text{Rs}4,000$

Hence, Vikram invested Rs 4,000.

No. of shares bought by Vikram = 200

Value of a share = $\text{Rs}\frac{4,000}{200} = \text{Rs}20$

Vikram bought a share for Rs 20.

Answer 7.

Let Archana's investment be x.

Face value of 250 shares = Rs (50 x 250) = Rs 12,500

Dividend for 250 shares = 12% of Rs 12,500 = $\text{Rs}\frac{12\times12,500}{100} = \text{Rs}1,500$

She gets Rs 1,500 as dividend which is equal to 15% of money invested

$\Rightarrow \frac{15x}{100} = \text{Rs}1,500$

$\Rightarrow x = \text{Rs}10,000$

Hence, Archana invested Rs 10,000.

No. of shares bought by Archana = 250

Value of a share = $\text{Rs}\frac{10,000}{250} = \text{Rs}40$

Archana bought a share for Rs 40.

Answer 8.

a) 12% at 125 or 16% at 150

12% at 125:

Income on Rs 125 = Rs 12

Income on Re 1 = $\frac{12}{125} = 0.096$

16% at 150:

Income on Rs 150 = Rs 16

Income on Re 1 = $\frac{16}{150} = 0.106$

Therefore, 16% at 150 is a better investment.

b) 16% at 80 or 18% at 120

16% at 80:

Income on Rs 80 = Rs 16

Income on Re 1 = $\frac{16}{80} = 0.20$

18% at 120:

Income on Rs 120 = Rs 18

Income on Re 1 $= \frac{18}{120} = 0.15$

Therefore, 16% at 80 is a better investment.

c) 15% at 80 or 12% at 75

15% at 80:

Income on Rs 80= Rs 15

Income on Re 1 $= \frac{15}{80} = 0.187$

12% at 75:

Income on Rs 75 = Rs 12

Income on Re 1 $= \frac{12}{75} = 0.16$

Therefore, 15% at 80 is a better investment.

d) 18% at 120 or 22% at 150

18% at 120:

Income on Rs 120 = Rs 18

Income on Re 1 $= \frac{18}{120} = 0.15$

22% at 150:

Income on Rs 150 = Rs 22

Income on Re 1 $= \frac{22}{150} = 0.146$

Therefore, 18% at 120 is a better investment.

e) 12.5% at 125 or 7.5% at 80

12.5% at 125:

Income on Rs 125 = Rs 12.5

Income on Re 1 $= \frac{12.5}{125} = 0.1$

7.5% at 80:

Income on Rs 80 = Rs 7.5

Income on Re 1 $= \frac{7.5}{80} = 0.093$

Therefore, 12.5% at 125 is a better investment.

Answer 9.

In first case:

No. of shares sold = 350

Face value of each share = Rs 150

Face value of 350 shares = Rs (150 x 350) = Rs 52,500

Market value of each share = Rs 120

Market value of 350 shares = Rs (120 x 350) = Rs 42,000

Dividend (income) for 350 shares = 6% of Rs 52,500 =

$\text{Rs}\frac{6\times 52,500}{100} = \text{Rs}3,150$

In second case:

Proceeds from selling 350 shares = Rs 42,000

Face value of each share = Rs 75

Market value of each share = Rs 75

No. of shares bought = $\frac{42,000}{75} = 560$

Usha bought 560 shares of Rs 75 each.

Face value of 560 shares = Rs (75 x 560) = Rs 42,000

Dividend (income) for 560 shares = 8% of Rs 42,000 =

$\text{Rs}\frac{8\times 42,000}{100} = \text{Rs}3,360$

Change in annual income = Rs (3,360 – 3,150) =Rs 210

Answer 10.

In first case:

No. of shares sold = 400

Face value of each share = Rs 100

Face value of 400 shares = Rs (100 x 400) = Rs 40,000

Market value of each share = Rs 125

Market value of 400 shares = Rs (125 x 400) = Rs 50,000

Dividend (income) for 400 shares = 12.5% of Rs 40,000 =

$$\text{Rs}\frac{12.5 \times 40,000}{100} = \text{Rs}5,000$$

In second case:

Proceeds from selling 400 shares = Rs 50,000

Face value of each share = Rs 50

Market value of each share = Rs 80

$$\text{No. of shares bought} = \frac{50,000}{80} = 625$$

Amitesh bought 625 shares of Rs 80 each.

Face value of 625 shares = Rs (50 x 625) = Rs 31,250

Dividend (income) for 625 shares = 16% of Rs 31,250 =

$$\text{Rs}\frac{16 \times 31,250}{100} = \text{Rs}5,000$$

Change in annual income = Rs (5,000 – 5,000) =Rs 0 = Nil

Answer 11.

In first case:

No. of shares sold = 250

Face value of each share = Rs 75

Face value of 250 shares = Rs (75 x 250) = Rs 18,750

Market value of each share = Rs 112

Market value of 250 shares = Rs (112 x 250) = Rs 28,000

Dividend (income) for 250 shares = 8% of Rs 18,750 =

$\text{Rs}\frac{8\times 18,750}{100} = \text{Rs}1,500$

In second case:

Proceeds from selling 250 shares = Rs 28,000

Face value of each share = Rs 125

Market value of each share = Rs 140

No. of shares bought = $\frac{28,000}{140} = 200$

Mr Lele bought 200 shares of Rs 140 each.

Face value of 200 shares = Rs (125 x 200) = Rs 25,000

Dividend (income) for 200 shares = 8% of Rs 25,000 =

$\text{Rs}\frac{8\times 25,000}{100} = \text{Rs}2,000$

Change in annual income = Rs (2,000 −1,500) =Rs 500

Answer 12.

In first case:

No. of shares sold = 1000

Face value of each share = Rs 125

Face value of 1000 shares = Rs (125 × 1000) = Rs 1,25,000

Market value of each share = Rs 150

Market value of 1000 shares = Rs (150 × 1000) = Rs 1,50,000

Dividend (income) for 1000 shares = 12% of Rs 1,25,000 =

$$\text{Rs}\frac{12\times 1,25,000}{100} = \text{Rs}15,000$$

In second case:

Proceeds from selling 1000 shares = Rs 1,50,000

Face value of each share = Rs 25

Market value of each share = Rs 60

$$\text{No. of shares bought} = \frac{1,50,000}{60} = 2,500$$

Rohit bought 2,500 shares of Rs 60 each.

Face value of 2,500 shares = Rs (25 × 2,500) = Rs 62,500

Dividend (income) for 2,500 shares = 20% of Rs 62,500 =

$$\text{Rs}\frac{20\times 62,500}{100} = \text{Rs}12,500$$

Change in annual income = Rs (12,500 −15,000) = - Rs 2,500 (less)

Answer 13.

Let x be the no. of shares purchased by Mr Lal.

Value of x shares = Rs (100 x X) = Rs 100x

Dividend for x no. of shares of Mercantile Co-operative Bank = 15% of Rs 100x

$$= \text{Rs}\frac{15 \times 100x}{100} = \text{Rs}15x$$

Monthly scholarship = Rs 225 = Dividend/12

$$\Rightarrow \text{Rs}\frac{15x}{12} = \text{Rs}225$$

$$\Rightarrow \text{Rs}15x = \text{Rs}2,700$$

$$\Rightarrow x = 180$$

Hence, Mr Lal should purchase 180 shares.

The market price for shares = Rs 120,

Investment by Mr Lal at Rs 120 = Rs (120 x 180) = Rs 21,600.

Answer 14.

Let x be the no. of shares purchased by Gayathri.

Value of x shares = Rs 75 x x = Rs 75x

Dividend for x no. of shares of V.G.Electronics = 20% of Rs 75x

$$= \text{Rs}\frac{20 \times 75x}{100} = \text{Rs}15x$$

Monthly income = Rs 500 = Dividend/12

$$\Rightarrow \text{Rs}\frac{15x}{12} = \text{Rs}500$$

$$\Rightarrow \text{Rs}15x = \text{Rs}6,000$$

$$\Rightarrow x = 400$$

Hence, Gayathri should purchase 400 shares.

The market price for shares = Rs 62.50

Investment by Gayathri at Rs 62.50 = Rs (62.50 x 400) = Rs 25,00.

Ex 4.3

Answer 1.

For shares of 'Bihar Steel':

Let x be the no. of shares sold by Ramesh.

Nominal value of each share = Rs 100

Face value of x shares = Rs 100x

Market value of each share = Rs 130

Market value of x shares = Rs 130x = proceeds from selling

$$\text{Dividend} = 8\% \text{ of Rs } 100x = \frac{8}{100} \times \text{Rs}100x = \text{Rs}8x \ldots\ldots\ldots (i)$$

For shares of 'Jindal Steel':

Market value of each share = Rs 75

Number of shares bought = proceeds from selling 'Bihar steel' / market value of 'Jindal steel'

$$= \frac{130x}{75}$$

Nominal value of each share = Rs 50

$$\text{Face value of } \frac{130x}{75} \text{ shares} = \text{Rs } 50 \times \frac{130x}{75} = \text{Rs}86.667x$$

$$\text{Dividend} = 12\% \text{ of Rs } 86.667x = \text{Rs}\frac{12 \times 86.667x}{100} = \text{Rs}10.40x \ldots\ldots (ii)$$

Increase in annual income = Rs 360 = subtraction of (i) from (ii)

$$\text{Rs } (10.40x - 8x) = \text{Rs } 360$$

$$\Rightarrow \quad 2.4x = \text{Rs } 360$$

$$\Rightarrow \quad x = 150$$

Therefore, Ramesh sold 150 shares

Answer 2.

For shares of 'Asian Chemicals':

Let x be the no. of shares sold by Payal.

Nominal value of each share = Rs 125

Face value of x shares = Rs 125x

Market value of each share = Rs 150

Market value of x shares = Rs 150x = proceeds from selling

Dividend = 12% of Rs 125x = $\frac{12}{100} \times Rs125x = Rs15x$ .....(i)

For shares of 'Saras Chemicals':

Market value of each share = Rs 40

Number of shares bought = proceeds from selling 'Asian Chemicals' /market value of 'Saras Chemicals'

$$= \frac{150x}{40} = \frac{15x}{4}$$

Nominal value of each share = Rs 50

Face value of $\frac{15x}{4}$ shares = Rs $50 \times \frac{15x}{4} = Rs187.5x$

Dividend = 10% of Rs 187.5x = $Rs\frac{10 \times 187.5x}{100} = Rs18.75x$ .....(ii)

Increase in annual income = Rs 825 = subtraction of (i) from (ii)

Rs (18.75x-15x) = Rs 825

⇨ 3.75x = Rs 825

⇨ x = 220

Therefore, Payal sold 220 shares

Answer 3.

For shares of 'Esco':

Let x be the no. of shares sold by Ananth.

Nominal value of each share = Rs 50

Face value of x shares = Rs 50x

Market value of each share = Rs 80

Market value of x shares = Rs 80x = proceeds from selling

$$\text{Dividend} = 6\% \text{ of Rs } 50x = \frac{6}{100} \times \text{Rs}50x = \text{Rs}3x \ldots\ldots\ldots (i)$$

For shares of 'Y2K Software':

Market value of each share = Rs 150

Number of shares bought = proceeds from selling 'Esco' / market value of 'Y2K Software'

$$= \frac{80x}{150} = \frac{8x}{15}$$

Nominal value of each share = Rs 100

$$\text{Face value of } \frac{8x}{15} \text{ shares} = \text{Rs } \text{Rs}100 \times \frac{8x}{15} = \text{Rs}53.33x$$

$$\text{Dividend} = 11\% \text{ of Rs } 53.33x = \text{Rs}\frac{11 \times 53.33x}{100} = \text{Rs}5.86x \ldots\ldots (ii)$$

Increase in annual income = Rs 2,150 = subtraction of (i) from (ii)

$$\text{Rs } (5.86x - 3x) = \text{Rs } 2{,}150$$

$$2.86x = \text{Rs } 2{,}150$$

$$\Rightarrow \quad x = 751$$

Therefore, Ananth sold 751 shares

Answer 4.

Money invested = Rs 10,000

For 6% shares:

Market value = Rs 75

Amount invested = Rs 4,500

Income from investment = $Rs\frac{6}{75} \times 4,500 = Rs360$

For 8% shares:

Market Value = Rs 100

Amount invested = Rs 2,500

Income from investment = $Rs\frac{8}{100} \times 2,500 = Rs200$

For 16% shares:

Market value = Rs x

Amount invested = Rs (10,000-4,500-2,500) = Rs 3,000

Income from investment = $Rs\frac{16}{x} \times 3,000 = Rs\frac{48,000}{x}$

Total investment from shares = $Rs360 + Rs200 + Rs\frac{48,000}{x}$

Krithika wants 8% return on his investment

$\frac{8}{100} \times Rs10,000 = Rs800$

Therefore,

$Rs800 = Rs360 + Rs200 + Rs\frac{48,000}{x}$

$Rs240x = Rs48,000$

$x = Rs200$

Hence, Krithika bought 16% shares at Rs 200 per share.

Answer 5.

Money invested = Rs 35,000

For 'Lakme' shares:

Market value = Rs 40

Amount invested = Rs 6,000

Income from investment = $\frac{6}{40} \times Rs6,000 = Rs900$

For 'Volta' shares:

Market Value = Rs 125

Amount invested = Rs 15,000

Income from investment = $\frac{8}{125} \times Rs15,000 = Rs960$

For 'BPL' shares:

Market value = Rs x

Amount invested = Rs (35,000-6,000-15,000) = Rs 14,000

Income from investment = $Rs\frac{12}{x} \times 14,000 = Rs\frac{1,68,000}{x}$

Total investment from shares = $Rs900 + Rs960 + Rs\frac{1,68,000}{x}$

Pramod wants $8\frac{1}{7}\%$ return on his investment = $\frac{57}{7}\%$

$\frac{57}{100 \times 7} \times Rs35,000 = Rs2,850$

Therefore,

$Rs2,850 = Rs900 + Rs960 + Rs\frac{1,68,000}{x}$

$Rs990x = Rs1,68,000$

$x = Rs169.69 = Rs170$

Hence, Pramod bought BPL shares at Rs 170 per share.