

*Book Name: Selina Concise***EXERCISE- 3 (A)****Solution 1:**

Nominal value of 1 share = Rs. 25

Market value of 1 share = Rs. 25 + Rs. 2 = Rs. 27

No. of shares purchased = 200

Money required to buy 200 shares = Rs. 27 × 200
= Rs. 5,400 Ans.

Solution 2:

Nominal value of 1 share = Rs. 30

Market value of 1 share = Rs. 30 – Rs. 3 = Rs. 27

No. of shares purchased = 125

Money required to buy 125 shares = Rs. 27 × 125
= Rs. 3,375 Ans

Solution 3:

Nominal value of 120 shares = Rs. 40 × 120 = Rs. 4,800

Market value of 120 shares = Rs. 42.50 × 120 = Rs. 5,100

His profit = Rs. 5,100 – Rs. 4,800 = Rs. 300 Ans.

Profit = $\frac{300}{4,800} \times 100\% = 6.25\%$

Solution 4:

Market value of 1 share = Rs. 63.25

Market value of 85 shares = Rs. 63.25 × 85 = Rs. 5,376.25 Ans.

Solution 5:

Nominal value of 1 share = Rs. 5

Market value 1 share = Rs. 5 + Rs. 1.15 = Rs. 6.15

Total money invested = Rs. 800

∴ No of shares purchased = $\frac{800}{6.15} = 160$

Market value of 160 shares = 160 × 6.15 = Rs. 984

His profit = Rs. 984 – Rs. 800 = Rs. 184 Ans.

Profit = $\frac{184}{800} \times 100\% = 23\%$

Solution 6:

Nominal value of 1 share = Rs. 60

Nominal value 250 shares = Rs. 60 \times 250 = Rs. 15,000

Dividend = 5% of Rs. 15,000 = $\frac{5}{100} \times 15,000 = \text{Rs. } 750$

Solution 7:

Market value of 1 share = Rs. 16

Nominal value of 1 share = Rs. 10

Money invested = Rs. 3,072

\therefore No of shares purchased = $\frac{3072}{16} = 192$

Nominal value of 192 shares = $10 \times 192 = \text{Rs. } 1,920$

Annual income = 5% of Rs. 1,920

$$= \frac{5}{100} \times 1,920$$

$$= \text{Rs. } 96$$

$$\text{Income\%} = \frac{96}{3,072} \times 100\% = 3.125\% = 3\frac{1}{8}\%$$

Solution 8:

Total money invested = Rs. 7,770

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 100 + Rs. 5 = Rs. 105

\therefore No of shares purchased = $\frac{7770}{105} = 74$

Nominal value of 74 shares = $74 \times 100 = \text{Rs. } 7,400$

Annual income = 5% of Rs. 7,400

$$= \frac{5}{100} \times 7,400$$

$$= \text{Rs. } 370$$

$$\text{Income\%} = \frac{370}{7,770} \times 100\% = 4.76\%$$

Solution 9:

Nominal value of 1 share = Rs. 50

Market value of 1 share = Rs. 50 + Rs. 10 = Rs. 60

Market value of 320 shares = $320 \times 60 = \text{Rs. } 19,200$

Nominal value of 320 shares = $320 \times 50 = \text{Rs. } 16,000$

Annual income = 12% of Rs. 16,000

$$= \frac{12}{100} \times 16,000$$

$$= \text{Rs. } 1,920$$

$$\text{Profit \%} = \frac{1,920}{19,200} \times 100\% = 10\%$$

Solution 10:

Nominal value of 1 share = Rs. 75

Market value of 1 share = Rs. 75 – Rs. 15 = Rs. 60

Market value of 120 shares = $120 \times 60 = \text{Rs. } 7,200$

Nominal value of 120 shares = $120 \times 75 = \text{Rs. } 9,000$

Annual income = 20% of Rs. 9,000

$$= \frac{20}{100} \times 9,000$$
$$= \text{Rs. } 1,800$$

$$\text{Profit \%} = \frac{1,800}{7,200} \times 100\% = 25\%$$

Solution 11:

Nominal value of 1 share = Rs. 50

Nominal value of 300 shares = $300 \times 50 = \text{Rs. } 15,000$

∴ Dividend = 20% of Rs. 15,000

$$= \frac{20}{100} \times 15,000 = \text{Rs. } 3,000$$

∴ Income tax paid = 3% of Rs. 3,000

$$= \frac{3}{100} \times 3,000 = \text{Rs. } 90$$

His net income = Rs. 3,000 – Rs. 90 = Rs. 2,910 Ans.

Solution 12:

Nominal value of 1 share = Rs. 10

Nominal value of 1000 shares = $1000 \times 10 = \text{Rs. } 10,000$

∴ Dividend = 15 % of Rs. 10,000

$$= \frac{15}{100} \times 10,000 = \text{Rs. } 1,500$$

∴ Income tax paid = 22 % of Rs. 1,500

$$= \frac{22}{100} \times 1,500 = \text{Rs. } 330$$

His net income = Rs. 1,500 – Rs. 330 = Rs. 1,170 Ans.

Solution 13:

Total investment = Rs. 8,800

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 110

$$\begin{aligned}\therefore \text{No of shares purchased} &= \frac{8800}{110} = 80 \\ \text{Nominal value of 80 shares} &= 80 \times 100 = \text{Rs. } 8,000 \\ \text{Let dividend \%} &= y \% \\ \text{Then } y\% \text{ of Rs. } 8,000 &= \text{Rs. } 1,200 \\ \Rightarrow \frac{y}{100} \times 8,000 &= \text{Rs. } 1,200 \\ \Rightarrow y &= 15\%\end{aligned}$$

Solution 14:

$$\begin{aligned}\text{Nominal value of 1 share} &= \text{Rs. } 24 \\ \text{Market value of 1 share} &= \text{Rs. } 24 + 12\% \text{ of Rs. } 24 \\ &= \text{Rs. } 24 + \text{Rs. } 2.88 = \text{Rs. } 26.88 \\ \text{Total investment} &= \text{Rs. } 1,680 \\ \therefore \text{No of shares purchased} &= \frac{1,680}{26.88} = 62.5 \\ \text{Nominal value of 62.5 shares} &= 62.5 \times 24 = \text{Rs. } 1,500 \\ \text{Dividend} &= 15\% \text{ of Rs. } 1,500 \\ &= \text{Rs. } 225\end{aligned}$$

Solution 15:

$$\begin{aligned}\text{Total investment} &= \text{Rs. } 7,500 \\ \text{Nominal value of 1 share} &= \text{Rs. } 100 \\ \text{No. of shares purchased} &= y \\ \text{Nominal value of } y \text{ shares} &= 100 \times y = \text{Rs. } (100y) \\ \text{Dividend \%} &= 10\% \\ \text{Dividend} &= \text{Rs. } 500 \\ \therefore 10\% \text{ of } 100y &= \text{Rs. } 500 \\ \Rightarrow \frac{10}{100} \times 100y &= \text{Rs. } 500 \\ \Rightarrow y = \frac{500}{10} &= 50 \text{ shares} \\ \therefore \text{Market value of 1 share} &= \frac{7,500}{50} = \text{Rs. } 150 \text{ Ans.}\end{aligned}$$

EXERCISE: 3 (B)**Solution 1:**

$$\begin{aligned}\text{Nominal value of 1 share} &= \text{Rs. } 100 \\ \text{Nominal value of 75 shares} &= 100 \times 75 = \text{Rs. } 7,500 \\ \text{Dividend \%} &= 9\% \\ \therefore \text{Dividend} &= 9\% \text{ of Rs. } 7,500\end{aligned}$$

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

Let market price of 1 share = Rs. y

Then market price of 75 shares = Rs. 75y

Profit% on investment = 12 %

12% of 75 y = Rs. 657

$$\Rightarrow \frac{12}{100} \times 75y = \text{Rs. } 657$$

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

Solution 2:

Nominal value of 1 share = Rs. 25

Market value of 1 share = Rs. 40

Profit% on investment = 4%

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

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

No. of shares purchased = 60

Then dividend on 60 shares = 60 × Rs. 1.60 = Rs. 96 Ans.

Solution 3:

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 100 + Rs. 20 = Rs. 120

Profit% on investment of 1 share = 15%

Then profit = 15% of Rs. 120 = Rs. 18

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

Solution 4:

Nominal value of 1 share = Rs. 50

Market value of 1 share = Rs. 50 – 10% of Rs. 50

= Rs. 50 – Rs. 5 = Rs. 45

Profit % on investment = 20%

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

$$\therefore \text{Dividend \%} = \frac{9}{50} \times 100\% = 18\% \text{ Ans.}$$

Solution 5:

Dividend% = 8%

Dividend = Rs. 2,840

Let nominal value of shares = Rs. y

8% of y = Rs. 2,840

$$\Rightarrow \frac{8}{100} \times y = \text{Rs. } 2,840$$

$$\Rightarrow y = \text{Rs. } 35,500$$

Solution 6:

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 110

Let no. of shares purchased = n

Then nominal value of n shares = Rs. $(100n)$

Dividend% = 12%

Dividend = Rs. 1,680

\therefore 12% of $100n$ = Rs. 1,680

$$\Rightarrow \frac{12}{100} \times 100n = \text{Rs. } 1,680$$

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

Then market value of 140 shares = $140 \times 110 = 15,400$ Ans

Solution 7:

Nominal value of 1 share = Rs. 60

Market value of 1 share = Rs. 60 + 25% of Rs. 60

= Rs. 60 + Rs. 15 = Rs. 75

Let no. of shares purchased = n

Then nominal value of n shares = Rs. $(60n)$

Dividend% = 11.2%

Dividend = Rs. 1,680

\therefore 11.2% of $60n$ = Rs. 1,680

$$\Rightarrow \frac{11.2}{100} \times 60n = \text{Rs. } 1,680$$

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

Then market value of 250 shares = $250 \times 75 = \text{Rs. } 18,750$ Ans.

Solution 8:

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

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

$$\begin{aligned} \text{(iii) Percentage return} &= \frac{\text{income}}{\text{investment}} \times 100\% \\ &= \frac{960}{9,600} \times 100\% = 10\% \end{aligned}$$

Solution 9:

Nominal value of 1 share = Rs. 20

Market value of 1 share = Rs. 20 – 20% of Rs. 20

= Rs. 20 – Rs. 4 = Rs. 16

No. of shares purchased = 400

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

(i) Market value of 400 shares = $400 \times 16 = \text{Rs. } 6,400$

(ii) Return% = 12%

Income = 12% of Rs. 6,400

$$= \frac{12}{100} \times \text{Rs. } 6,400 = \text{Rs. } 768$$

$$\begin{aligned} \text{Dividend \%} &= \frac{\text{income}}{\text{Nominal value}} \times 100\% \\ &= \frac{768}{8,000} \times 100\% = 9.6\% \end{aligned}$$

Solution 10:

Nominal value of 1 share = Rs. 100

Nominal value of 10,000 shares = $10,000 \times \text{Rs. } 100 = \text{Rs. } 10,00,000$

(i) Dividend% = 5%

Dividend = 5% of Rs. 10,00,000

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

(ii) Nominal value of 72 shares = $\text{Rs. } 100 \times 72 = \text{Rs. } 7,200$

Dividend = 5% of Rs. 7,200

$$= \frac{5}{100} \times \text{Rs. } 7,200 = \text{Rs. } 360$$

(iii) Let market value of 1 share = Rs y

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

Return% = 4%

4% of Rs. (10,000y) = Rs. 50,000

$$\Rightarrow \frac{4}{100} \times 10,000y = \text{Rs. } 50,000$$

$$\Rightarrow y = \text{Rs. } 125.$$

Solution 11:

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 100 + 40% of Rs. 100

= Rs. 100 + Rs. 40 = Rs. 140

No. of shares purchased = 1800

Nominal value of 1800 shares = $1800 \times 100 = \text{Rs. } 1,80,000$

Market value of 1800 shares = $1800 \times 140 = \text{Rs. } 2,52,000$

(i) Dividend% = 15%

Dividend = 15% of Rs. 1,80,000

$= \frac{15}{100} \times \text{Rs. } 1,80,000 = \text{Rs. } 27,000 \text{ Ans.}$

(ii) $\therefore \text{Return \%} = \frac{\text{Income}}{\text{Investment}} \times 100\%$
 $= \frac{27,000}{2,52,000} \times 100\% = 10.7\% = 11\% \text{ Ans}$

Solution 12:

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 140

Total investment = Rs. 11,200

$\therefore \text{No of shares purchased} = \frac{11,200}{140} = 80 \text{ shares}$

Then nominal value of 80 shares = $80 \times 100 = \text{Rs. } 8,000$

(i) Dividend% = 6%

Dividend = 6% of Rs. 8,000

$= \frac{6}{100} \times \text{Rs. } 8,000 = \text{Rs. } 480$

(ii)

$\text{Return \%} = \frac{\text{Income}}{\text{Investment}} \times 100\%$
 $= \frac{480}{11,200} \times 100\%$
 $= 4.29\%$

Solution 13:

1st case

Nominal value of 1 share = Rs. 100

Nominal value of 60 shares = $\text{Rs. } 100 \times 60 = \text{Rs. } 6,000$

Market value of 1 share = Rs. 100 + 60% of Rs. 100

= Rs. 100 + Rs. 60 = Rs. 160

Market value of 60 shares = $\text{Rs. } 160 \times 60 = \text{Rs. } 9,600 \text{ Ans.}$

(ii) Nominal value of 1 share = Rs. 50

Market value of 1 share = Rs. 50 – 4% of Rs. 50

= Rs. 50 – Rs. 2 = Rs. 48

$\therefore \text{No of shares purchased} = \frac{9,600}{48} = 200 \text{ shares Ans.}$

(iii) Nominal value of 200 shares = Rs. 50×200 = Rs. 10,000
Dividend % = 18%
Dividend = 18% of Rs. 10,000
 $= \frac{18}{100} \times \text{Rs. } 10,000 = \text{Rs. } 1,800$ Ans

Solution 14:

(i) Nominal value of 1 share = Rs. 100
Nominal value of 10,000 shares = Rs. $100 \times 10,000$ = Rs. 10,00,000
Dividend% = 8%
Dividend = 8% of Rs. 10,00,000
 $= \frac{8}{100} \times \text{Rs. } 10,00,000 = \text{Rs. } 80,000$

(ii) Market value of 90 shares = Rs. 150×90 = Rs. 13,500
Nominal value of 90 shares = Rs. 100×90 = Rs. 9,000
Dividend = 8% of Rs. 9,000
 $= \frac{8}{100} \times \text{Rs. } 9,000 = \text{Rs. } 720$

(iii) Return% = $\frac{\text{income}}{\text{investment}} \times 100\%$
 $= \frac{720}{13,500} \times 100\%$
 $= 5\frac{1}{3}\%$

Solution 15:**1st case**

16% Rs.100 shares at 80 means;
Market value of 1 share = Rs. 80
Nominal value of 1 share = Rs. 100
Dividend = 16%
Income on Rs. 80 = 16% of Rs. 100 = Rs. 16
Income on Rs. 1 = $\frac{16}{80} = \text{Rs. } 0.20$

2nd case

20% Rs. 100 shares at 120 means;
Market value of 1 share = Rs. 120
Nominal value of 1 share = Rs. 100
Dividend = 20%
Income on Rs. 120 = 20% of Rs. 100 = Rs. 20

$$\text{Income on Rs. 1} = \frac{20}{120} = \text{Rs. } 0.17$$

Then 16% Rs. 100 shares at 80 is better investment.

Solution 16:

(i)

1st firm:

Market value of 1 share = Rs. 120

Nominal value of 1 share = Rs. 100

Dividend = 5%

Income on Rs. 120 = 5% of Rs. 100 = Rs. 5

$$\text{Income on Rs. 1} = \frac{5}{120} = \text{Rs. } 0.041$$

2nd firm

Market value of 1 share = Rs. 132

Nominal value of 1 share = Rs. 100

Dividend = 6%

Income on Rs. 132 = 6% of Rs. 100 = Rs. 6

$$\text{Income on Rs. 1} = \frac{6}{132} = \text{Rs. } 0.045$$

Then investment in second company is giving better return Ans.

(ii)

Income on investment of Rs. 26,400 in first firm

$$= \frac{5}{120} \times 26,400 = \text{Rs. } 1,100$$

Income on investment of Rs. 26,400 in second firm

$$= \frac{6}{132} \times 26,400 = \text{Rs. } 1,200$$

$$\therefore \text{Difference between both returns} = \text{Rs. } 1,200 - \text{Rs. } 1,100 \\ = \text{Rs. } 100 \text{ Ans}$$

Solution 17:

1st case

Nominal value of 1 share = Rs. 10

Nominal value of 360 shares = Rs. 10 \times 360 = Rs. 3,600

Market value of 1 share = Rs. 21

Market value of 360 shares = Rs. 21 \times 360 = Rs. 7,560

Dividend% = 12%

Dividend = 12% of Rs. 3,600

$$= \frac{12}{100} \times 3,600 = \text{Rs. } 432$$

2nd case

Nominal value of 1 share = Rs. 5

Market value of 1 share = Rs. 3.50

\therefore No. of shares purchased = $\frac{7,560}{3.50} = 2160 \text{ shares}$

Nominal value of 2160 shares = Rs. 5 \times 2160 = Rs. 10,800

Dividend% = 4.5%

Dividend = 4.5% of Rs. 10,800

$= \frac{4.5}{100} \times 10,800 = \text{Rs. } 486$

Annual change in income = Rs. 486 – Rs. 432

= Rs. 54 increase Ans.

Solution 18:

1st case

Nominal value of 1 share = Rs.20

Nominal value of 400 shares = Rs. 20 \times 400 = Rs. 8,000

Market value of 1 share = Rs. 18

Market value of 400 shares = Rs. 18 \times 400 = Rs. 7,200

Dividend% = 5%

Dividend = 5% of Rs. 8,000

$= \frac{5}{100} \times 8,000 = \text{Rs. } 400$

2nd case

Nominal value of 1 share = Rs. 10

Market value of 1 share = Rs. 12

\therefore No of shares purchased = $\frac{7,200}{12} = 600 \text{ shares}$ Ans.

Nominal value of 600 shares = Rs. 10 \times 600 = Rs. 6,000

Dividend% = 7%

Dividend = 7% of Rs. 6,000

$= \frac{7}{100} \times 6,000 = \text{Rs. } 420$

Annual change in income = Rs. 420 – Rs. 400

= Rs. 20 increase Ans.

Solution 19:

For A

Total investment = Rs. 16,000

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 80

\therefore No of shares purchased = $\frac{16,000}{80} = 200 \text{ shares}$

Nominal value of 200 shares = Rs. 100 \times 200 = Rs. 20,000

Dividend% = 3%

$$\begin{aligned}\text{Dividend} &= 3\% \text{ of Rs. } 20,000 \\ &= \frac{3}{100} \times \text{Rs. } 20,000 = \text{Rs. } 600\end{aligned}$$

For B

Total investment = Rs. 16,000

Nominal value of 1 share = Rs. 10

Market value of 1 share = Rs. 10

$$\therefore \text{No of shares purchased} = \frac{16,000}{10} = 1600 \text{ shares}$$

Nominal value of 1600 shares = $10 \times 1600 = \text{Rs. } 16,000$

Dividend received by B = Dividend received by A
= Rs. 600

$$\begin{aligned}\text{Dividend \%} &= \frac{\text{Dividend}}{\text{Nominal value}} \times 100\% \\ &= \frac{600}{16,000} \times 100\% \\ &= 3.75\%\end{aligned}$$

Solution 20:

Total investment = Rs. 20,020

Nominal value of 1 share = Rs. 26

Market value of 1 share = Rs. 26 + 10% of Rs. 26
= Rs. 26 + Rs. 2.60 = Rs. 28.60

$$\therefore \text{No of shares purchased} = \frac{20,020}{28.60} = 700 \text{ shares Ans.}$$

Nominal value of 700 shares = $\text{Rs. } 26 \times 700 = \text{Rs. } 18,200$

Dividend % = 15%

Dividend = 15% of Rs. 18,200

$$= \frac{15}{100} \times 18,200 = \text{Rs. } 2,730 \text{ Ans}$$

$$\begin{aligned}\therefore \text{Income \%} &= \frac{\text{income}}{\text{Investment}} \times 100\% \\ &= \frac{2,730}{20,020} \times 100\% = \frac{150}{11} \% = 13 \frac{7}{11} \% \text{ Ans.}\end{aligned}$$

Solution 21:

1st case

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 100 – 20% of Rs. 100
= Rs. 100 – Rs. 20 = Rs. 80

Total investment = Rs. 19,200

$$\therefore \text{No of shares purchased} = \frac{19,200}{80} = 240 \text{ shares}$$

Nominal value of 240 shares = $\text{Rs. } 100 \times 240 = \text{Rs. } 24,000$

Dividend% = 15%

Dividend = 15% of Rs. 24,000

$$= \frac{15}{100} \times \text{Rs. } 24,000 = \text{Rs. } 3,600$$

She sold 240 shares in = Rs. 90×240 = Rs. 21,600

2nd case

Total investment in 2nd year = Rs. 21,600 + Rs. 3,600
= Rs. 25,200

Nominal value of 1 share = Rs. 50

Market value of 1 share = Rs. 42

$$\therefore \text{No of shares purchased} = \frac{25,200}{42} = 600 \text{ shares}$$

Nominal value of 600 shares = Rs. 50×600 = Rs. 30,000

Dividend% = 20%

Dividend = 20% of Rs. 30,000

$$= \frac{20}{100} \times \text{Rs. } 30,000 = \text{Rs. } 6,000$$

Annual change in income = Rs. 6,000 – Rs. 3,600

= Rs. 2,400

The percentage change in her return on her original investment

$$= \frac{2,400}{19,200} \times 100\% = 12.5\%$$

Solution 22:

1st case

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 100 + 20% of Rs. 100

= Rs. 100 + Rs. 20 = Rs. 120

Total investment = Rs. 19,200

$$\therefore \text{No of shares purchased} = \frac{19,200}{120} = 160 \text{ shares}$$

Nominal value of 160 shares = Rs. 100×160 = Rs. 16,000

Dividend% = 15%

Dividend = 15% of Rs. 16,000

$$= \frac{15}{100} \times 16,000 = \text{Rs. } 2,400$$

He sold 160 shares in = Rs. 140×160 = Rs. 22,400

2nd case

Total investment in 2nd year = Rs. 22,400 + Rs. 2,400
= Rs. 24,800

Nominal value of 1 share = Rs. 20

Market value of 1 share = Rs. 16

$$\therefore \text{No of shares purchased} = \frac{24,800}{16} = 1550 \text{ shares}$$

Nominal value of 1,550 shares = Rs. 20×1550 = Rs. 31,000

Dividend% = 20%

Dividend = 20% of Rs. 31,000

$$= \frac{20}{100} \times 31,000 = \text{Rs. } 6,200$$

Annual change in income = Rs. 6,200 – Rs. 2,400
= Rs. 3,800

The percentage change in his return on his original investment

$$= \frac{3,800}{19,200} \times 100\% = \frac{475}{24} \% = 19 \frac{19}{24} \%$$

EXERCISE 3 (C)

Solution 1:

Total investment = Rs. 14,000

Nominal value of 1 share = Rs. 40

Market value of 1 share = Rs. 40 + 40% of Rs. 40

= Rs. 40 + Rs. 16 = Rs. 56

∴ No of shares purchased = $\frac{14,000}{56} = 250 \text{ shares}$

Nominal value of 250 shares = Rs. 40 × 250 = Rs. 10,000

Dividend% = 8%

Dividend = 8% of Rs. 10,000

$$= \frac{8}{100} \times 10,000 = \text{Rs. } 800$$

Solution 2:

Total investment = Rs. 12,000

Nominal value of 1 share = Rs. 40

Market value of 1 share = Rs. 40 – 40% of Rs. 40

= Rs. 40 – Rs. 16 = Rs. 24

∴ No of shares purchased = $\frac{12,000}{24} = 500 \text{ shares}$

Nominal value of 500 shares = Rs. 40 × 500 = Rs. 20,000

Dividend % = 11%

Dividend = 11% of Rs. 20,000

$$= \frac{11}{100} \times 20,000 = \text{Rs. } 2,200$$

Solution 3:

Total investment = Rs. 11,880

Nominal value of 1 share = Rs. 50

Market value of 1 share = Rs. 50 – 12% of Rs. 50

= Rs. 50 – Rs. 6 = Rs. 44

∴ No of shares purchased = $\frac{11,880}{44} = 270 \text{ shares}$

Nominal value of 270 shares = Rs. 50×270 = Rs. 13,500

Dividend% = 12%

Dividend = 12% of Rs. 13,500

$$= \frac{12}{100} \times 13,500 = \text{Rs. } 1,620$$

Solution 4:

Nominal value of 1 share = Rs. 80

Market value of 1 share = Rs. 80 + 30% of Rs. 80

= Rs. 80 + Rs. 24 = Rs. 104

Market value of 150 shares = Rs. 104 \times 150 = Rs. 15,600

Nominal value of 150 shares = Rs. 80 \times 150 = Rs. 12,000

Dividend% = 18%

Dividend = 18% of Rs. 12,000

$$= \frac{18}{100} \times 12,000 = \text{Rs. } 2,160$$

$$\begin{aligned}\text{Income\%} &= \frac{\text{Income}}{\text{Investment}} \times 100\% \\ &= \frac{2,160}{15,600} \times 100\% \\ &= 13.85\%.\end{aligned}$$

Solution 5:

(i)

Total investment = Rs. 5,625

Nominal value of 1 share = Rs. 10

Market value of 1 share = Rs. 12.50

$$\therefore \text{No of shares purchased} = \frac{5,625}{12.50} = 450 \text{ shares}$$

Nominal value of 450 shares = Rs. 10 \times 450 = Rs. 4,500

Dividend% = 7%

Dividend = 7% of Rs. 4,500

$$= \frac{7}{100} \times 4,500 = \text{Rs. } 315$$

(ii)

No. of shares sold = 60% of 450 = 270

Sale price of 270 shares = Rs. 10 \times 270 = Rs. 2,700

Purchase price of 270 shares = Rs. 12.50 \times 270 = Rs. 3,375

His loss = Rs. 3,375 – Rs. 2,700 = Rs. 675 Ans.

Solution 6:

Par value of 85 shares = Rs. 100 \times 85 = Rs. 8,500

Market value of 85 shares = Rs. 150×85 = Rs. 12,750

(i) Dividend% = 6.5%

Dividend = 6.5% of Rs. 8,500

$$= \frac{6.5}{100} \times 8,500 = \text{Rs. } 552.50 \text{ Ans}$$

(ii) Required income = Rs. 552.50 + Rs. 260 = Rs. 812.50

If income is Rs. 552.50, then investment is Rs. 12,750

If income is Rs. 812.50, then investment is $= \frac{12,750}{552.50} \times 812.50$

= Rs. 18,750

More investment required = Rs. 18,750 – Rs. 12,750
= Rs. 6,000 Ans.

Solution 7:

Nominal value of 1 share = Rs. 60

Market value of 1 share = Rs. 50

Dividend% = x%

Return% = (x+3)%

According to question

x% of Rs. 60 = (x+3)% of Rs. 50

$$\Rightarrow \frac{x}{100} \times \text{Rs. } 60 = \frac{x+3}{100} \times \text{Rs. } 50$$

$$\Rightarrow 60x = 50x + 150$$

$$\Rightarrow 10x = 150$$

$$\Rightarrow x = \frac{150}{10} = 15.$$

Solution 8:

(i)

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 85

Let no. of shares purchased = n

Nominal value of n shares = Rs. (100n)

\therefore 12% of Rs.(100n) = Rs. 1,800

$$\Rightarrow \frac{12}{100} \times 100n = \text{Rs. } 1,800$$

$$\Rightarrow n = \frac{1,800 \times 100}{12 \times 100} = 150 \text{ shares}$$

Market value of 150 shares = Rs. 85×150 = Rs. 12,750

(ii)

$$\text{Income \%} = \frac{\text{Income}}{\text{Investment}} \times 100\%$$

$$= \frac{1,800}{12,750} \times 100\%$$

$$= 14.12\%.$$

Solution 9:

(i)

$$\text{Dividend\%} = 10\%$$

$$\text{Face value} = \text{Rs. } 60$$

$$\text{Dividend} = 10\% \text{ of Rs. } 60$$

$$= \frac{10}{100} \times \text{Rs. } 60 = \text{Rs. } 6$$

$$\text{Let market value} = \text{Rs. } y$$

$$\text{Return\%} = 12\%$$

$$12\% \text{ of Rs } (y) = \text{Rs. } 6$$

$$\Rightarrow \frac{12}{100} \times y = \text{Rs. } 6$$

$$\Rightarrow y = \text{Rs. } 50$$

(ii)

$$\text{When income is Rs. } 6, \text{ then investment is Rs. } 50$$

$$\text{When income is Rs. } 1,200, \text{ then investment}$$

$$= \frac{50}{6} \times \text{Rs. } 1,200$$

$$= \text{Rs. } 10,000$$

Solution 10:

(i)

1st firm

$$\text{Nominal value of 1 share} = \text{Rs. } 10$$

$$\text{Market value of 1 share} = \text{Rs. } 13$$

$$\text{Dividend\%} = 5\%$$

$$\text{Dividend} = 5\% \text{ of Rs. } 10 = \text{Rs. } 0.50$$

$$\therefore \text{Income\%} = \frac{\text{Income}}{\text{Investment}} \times 100\%$$

$$= \frac{0.50}{13} \times 100\% = 3.846\%$$

2nd firm

$$\text{Nominal value of 1 share} = \text{Rs. } 10$$

$$\text{Market value of 1 share} = \text{Rs. } 16$$

$$\text{Dividend\%} = 6\%$$

$$\text{Dividend} = 6\% \text{ of Rs. } 10 = \text{Rs. } 0.60$$

$$\therefore \text{Income\%} = \frac{\text{Income}}{\text{Investment}} \times 100\%$$

$$= \frac{0.60}{16} \times 100\% = 3.75\%$$

Then first firm is paying better than second firm.

(ii)

$$\text{Let money invested in each firm} = \text{Rs } y$$

For 1st firm

$$\therefore \text{No of shares purchased} = \frac{y}{13} \text{ shares}$$

$$\text{Total dividend} = \text{Rs. } 0.50 \times \frac{y}{13} = \text{Rs. } \frac{y}{26}$$

For 2nd firm:

$$\therefore \text{No of shares purchased} = \frac{y}{16} \text{ shares}$$

$$\text{Total dividend} = \text{Rs. } 0.60 \times \frac{y}{16} = \text{Rs. } \frac{3y}{80}$$

Given – difference of both dividend = Rs. 30

$$\Rightarrow \frac{y}{26} - \frac{3y}{80} = \text{Rs. } 30$$

$$\Rightarrow \frac{y}{1040} = \text{Rs. } 30$$

$$\Rightarrow y = \text{Rs. } 30 \times 1040 = \text{Rs. } 31,200$$

$$\begin{aligned} \text{Total money invested in both firms} &= \text{Rs. } 31,200 \times 2 \\ &= \text{Rs. } 62,400 \text{ Ans.} \end{aligned}$$

Solution 11:

(i)

$$\text{Total investment} = \text{Rs. } 45,000$$

$$\text{Market value of 1 share} = \text{Rs. } 125$$

$$\therefore \text{No of shares purchased} = \frac{45000}{125} = 360 \text{ shares}$$

$$\text{Nominal value of 360 shares} = \text{Rs. } 100 \times 360 = \text{Rs. } 36,000$$

Let no. of shares sold = n

$$\text{Then sale price of 1 share} = \text{Rs. } 140$$

$$\text{Total sale price of n shares} = \text{Rs. } 8,400$$

$$\text{Then } n = \frac{8,400}{140} = 60 \text{ shares}$$

$$\text{The no. of shares he still holds} = 360 - 60 = 300$$

(ii)

$$\text{Nominal value of 300 shares} = \text{Rs. } 100 \times 300 = \text{Rs. } 30,000$$

$$\text{Dividend\%} = 15\%$$

$$\text{Dividend} = 15\% \text{ of Rs. } 30,000$$

$$= \frac{15}{100} \times \text{Rs. } 30,000 = \text{Rs. } 4,500$$

Solution 12:

$$\text{Total investment} = \text{Rs. } 29,040$$

$$\text{Nominal value of 1 share} = \text{Rs. } 100$$

$$\text{Market value of 1 share} = \text{Rs. } 100 + 20\% \text{ of Rs. } 100$$

$$= \text{Rs. } 100 + \text{Rs. } 20 = \text{Rs. } 120$$

$$\therefore \text{No of shares purchased} = \frac{29,040}{120} = 242 \text{ shares}$$

$$\text{Nominal value of 242 shares} = \text{Rs. } 100 \times 242 = \text{Rs. } 24,200$$

$$\text{Dividend\%} = 15\%$$

$$\text{Dividend} = 15\% \text{ of Rs. } 24,200$$

$$= \frac{15}{100} \times \text{Rs. } 24,200 = \text{Rs. } 3,630$$

$$\begin{aligned}\text{Income \%} &= \frac{\text{income}}{\text{Investment}} \times 100\% \\ &= \frac{3,630}{29,040} \times 100\% \\ &= 12.5\%\end{aligned}$$

Solution 13:

(i) Nominal value of 1 share = Rs. 150

Dividend% = 12%

Dividend on 1 share = 12% of Rs. 150

$$= \frac{12}{100} \times \text{Rs. } 150 = \text{Rs. } 18$$

Let market value of 1 share = Rs y

Return% = 10%

10% of Rs (y) = Rs. 18

$$\Rightarrow \frac{10}{100} \times y = \text{Rs. } 18$$

$$\Rightarrow y = \text{Rs. } 180$$

(ii) When dividend is Rs. 18, then investment is Rs. 180

When dividend is Rs. 1,350, then investment

$$= \frac{180}{18} \times \text{Rs. } 1,350$$

$$= \text{Rs. } 13,500$$

Solution 14:

Total investment = Rs. 50,760

Let 1st part = Rs. y

2nd part = Rs. (50,760 – y)

For 1st part

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 100 – 8% of Rs. 100

= Rs. 100 – Rs. 8 = Rs. 92

$$\therefore \text{No of shares purchased} = \frac{y}{92} \text{ shares}$$

Dividend% = 8%

Dividend on 1 share = 8% of Rs. 100 = Rs. 8

$$\text{Total dividend} = \frac{y}{92} \times \text{Rs. } 8 = \text{Rs. } \frac{2y}{23}$$

For 2nd part

Nominal value of 1 share = Rs. 100

Market value of 1 share = Rs. 100 + 8% of Rs. 100

= Rs. 100 + Rs 8 = Rs. 108

$$\therefore \text{No of shares purchased} = \frac{50760 - y}{108} \text{ shares}$$

$$\text{Dividend\%} = 9\%$$

$$\text{Dividend on 1 share} = 9\% \text{ of Rs. } 100 = \text{Rs. } 9$$

$$\text{Total dividend} = \frac{50760 - y}{108} \times \text{Rs. } 9 = \text{Rs. } \frac{9(50760 - y)}{108}$$

Given that both dividend are equal

$$\text{Then Rs. } \frac{2y}{23} = \text{Rs. } \frac{9(50760 - y)}{108}$$

$$\Rightarrow 2y \times 108 = 23 (456840 - 9y)$$

$$\Rightarrow 216y = 456840 \times 23 - 207y$$

$$\Rightarrow 423y = 456840 \times 23$$

$$\Rightarrow y = \frac{456840 \times 23}{423} = \text{Rs. } 24,840$$

$$1^{\text{st}} \text{ part} = \text{Rs. } 24,840$$

$$2^{\text{nd}} \text{ part} = \text{Rs. } 50760 - \text{Rs. } 24,840 = \text{Rs. } 25,920 \text{ Ans.}$$

Solution 15:

Let his total savings is Rs y

1st case

$$\text{His saving} = 33\frac{1}{3}\% \text{ of } y = \text{Rs. } \frac{y}{3}$$

$$\text{Market price of 1 share} = \text{Rs. } 60$$

$$\text{Then shares purchased} = \frac{y}{3 \times 60} = \frac{y}{180}$$

$$\text{Dividend on 1 share} = 20\% \text{ of Rs. } 50 = \text{Rs. } 10$$

$$\text{Total dividend} = \frac{y}{180} \times 10 = \text{Rs. } \frac{y}{18}$$

2nd case

$$\text{His saving} = 66\frac{2}{3}\% \text{ of } y = \text{Rs. } \frac{2y}{3}$$

$$\text{Market price of 1 share} = \text{Rs. } 110$$

$$\text{Then shares purchased} = \frac{2y}{3 \times 110} = \frac{y}{165}$$

$$\text{Dividend on 1 share} = 10\% \text{ of Rs. } 100 = \text{Rs. } 10$$

$$\text{Total dividend} = \frac{y}{165} \times 10 = \text{Rs. } \frac{2y}{33}$$

According to question

$$\text{Total income} = \text{Rs. } 9,200$$

$$\Rightarrow \frac{y}{18} + \frac{2y}{33} = \text{Rs. } 9,200$$

$$\Rightarrow \frac{23y}{198} = \text{Rs. } 9,200$$

$$\Rightarrow y = \frac{9,200 \times 198}{23} = \text{Rs. } 79,200 \text{ Ans}$$

$$\text{The number of Rs. } 50 \text{ share} = \frac{79,200}{180} = 440 \text{ Ans.}$$

$$\text{The number of Rs. } 100 \text{ share} = \frac{79,200}{165} = 480 \text{ Ans.}$$

Solution 16:1st case

- (i) Total investment = Rs. 4,500
Market value of 1 share = Rs. 15
 \therefore No of shares purchased = $\frac{4500}{15} = 300 \text{ shares}$
Nominal value of 1 share = Rs. 10
Nominal value of 300 shares = Rs. $10 \times 300 = \text{Rs. } 3000$
Dividend = 8% of Rs. 3,000
 $= \frac{8}{100} \times \text{Rs. } 3,000 = \text{Rs. } 240$
Sale price of 1 share = Rs. 30
Total sale price = Rs. $30 \times 300 = \text{Rs. } 9,000 \text{ Ans.}$
- (ii) new market price of 1 share = Rs. 125
 \therefore No of shares purchased = $\frac{9000}{125} = 72 \text{ shares Ans.}$
- (iii) New nominal value of 1 share = Rs. 100
New nominal value of 72 shares = Rs. $100 \times 72 = \text{Rs. } 7,200$
Dividend% = 12%
New dividend = 12% of Rs. 7,200
 $= \frac{12}{100} \times \text{Rs. } 7,200 = \text{Rs. } 864$
Change in annual income = Rs. 864 – Rs. 240
= Rs. 624 Ans

Solution 17:

- Rate of dividend = 8%
Investment = Rs. 52000
Market Rate = Rs. $100 - 20 = \text{Rs. } 80$
No. of shares purchased = $\frac{52000}{80} = 650$
- (i) Annual dividend = $650 \times 8 = \text{Rs. } 5200 \text{ Ans.}$
- (ii) On selling, market rate = Rs. $100 + 20 = \text{Rs. } 120$
 \Rightarrow sale price = $650 \times 120 = \text{Rs. } 78,000$
Profit = Rs. $78,000 - \text{Rs. } 52,000 = \text{Rs. } 26,000$
 \Rightarrow Total gain = $26000 + 5200 = \text{Rs. } 31200 \text{ Ans.}$