

## Answer key

Date: \_\_\_\_\_

1. (a)

(i)  $\rightarrow$  (c) NAV(ii)  $\rightarrow$  (b) contingent annuity(iii)  $\rightarrow$  (c) below par(iv)  $\rightarrow$  (a) greater than(v)  $\rightarrow$  (d) Invoice price(vi)  $\rightarrow$  (a) Good-will(vii)  $\rightarrow$  (b) 2:1(viii)  $\rightarrow$  (d) 2:6(ix)  $\rightarrow$  (c) net selling price(x)  $\rightarrow$  (a) monthly(b) (i)  $\rightarrow$  T, (ii)  $\rightarrow$  T, (iii)  $\rightarrow$  T, (iv)  $\rightarrow$  F, (v)  $\rightarrow$  T, (vi)  $\rightarrow$  F,(vii)  $\rightarrow$  T, (viii)  $\rightarrow$  F (ix)  $\rightarrow$  T, (x)  $\rightarrow$  F

2.

(a) Let the list price be Rs 100.

Trade Discount = 22%.

 $\therefore$  Invoice price =  $100 - 22 = \text{Rs } 78$ 

The manufacturer makes 20% profit on cost for this S.P.

$$\therefore \text{C.P.} = \text{Rs} \left( \frac{78 \times 100}{120} \right) = \text{Rs } 65$$

If C.P. increases by 20%.

$$\text{New C.P.} = 65 + \frac{20 \times 65}{100} = \text{Rs } 78$$

Since ~~rem~~ the profit remains 20% on C.P.

$$\text{New N.S.P.} = \left( \frac{100 + 20}{100} \right) \times 78$$

$$= \text{Rs } 93.6$$

 $\therefore$  The L.P. remains the same (i.e. Rs 100)

$$\therefore \text{New T.D.} = 100 - 93.6$$

$$= 6.4\% \quad //$$

2(b) Let the numbers be  $16x$  &  $9x$ . (2)

$$\text{mean} = 24$$

$$\therefore 24 = \sqrt{16x \times 9x}$$

$$24 = \sqrt{144x^2}$$

$$24 = 12xx$$

$$x = 2$$

$\therefore$  The numbers are 32 and 18.

2(c) Total earning of the salesman =

$$4\% \text{ of } 8000 + 6\% \text{ of } 6000 + 9\% \text{ of } 6000 + 10\% \text{ of } (27000 - 8000 - 6000 - 6000) + \frac{1}{4}\% \text{ of } 27000$$

$$= 320 + 360 + 540 + 700 + 675$$

$$\Rightarrow \text{Rs } 1,987.50$$

2(d)

| Earning | Men | No. of hrs | Days |
|---------|-----|------------|------|
| 6,400   | 30  | 8          | 20   |
| $x$     | 45  | 10         | 24   |

$$x = \frac{45 \times 10 \times 24 \times 6400}{38 \times 8 \times 20}$$

$$x = \text{Rs } 14,400.$$

3(a) For Ketan,  $P_1 = \text{Rs } 18000$ ,  $S.I_1 = \text{Rs } 5040$ ,  
 $n_1 = 3.5 \text{ yrs.}$

$$S.I_1 = \frac{18000 \times 3.5 \times R}{100}$$

$$5040 = 630 R$$

$$R = 8\%$$

For Kevin;  $P_2 = \text{Rs } 25000$ ,  $n_2 = 4.5 \text{ yrs.}$

$$S.I_2 = \frac{25000 \times 4.5 \times 8}{100} = \text{Rs } 9000$$

$$\therefore \text{Total amount} = 25000 + 9000 = \text{Rs } 34000/-$$

$$3(b) C = \text{Rs } 7000$$

$$\gamma = 10\% \cdot p \cdot a$$

$$= \frac{10}{4} \% \cdot p \cdot q$$

$$\gamma = \frac{5}{2}\% \cdot p \cdot q$$

$$i = \frac{5}{200} = 0.025$$

$$n = 24 \text{ yrs.}$$

$$= 2 \times 4 \text{ quarters}$$

$$= 8 \text{ quarters.}$$

$$A = \frac{C}{i} [(1+i)^n - 1]$$

$$= \frac{7000}{0.025} [(1.025)^8 - 1]$$

$$= \text{Rs } 61,152.811$$

$$3(c) PV_1 = \frac{15,000}{(1.08)^3} = \text{Rs } 11907.483$$

$$PV_2 = \frac{20,000}{(1.09)^4} = \text{Rs } 14168.504$$

$$\text{Total Present value} = PV_1 + PV_2 = \text{Rs } 26075.987.$$

~~$$3(d) 150,000 = \frac{\text{EMI}}{0.01} \left[ 1 - \frac{1}{(1.01)^{15}} \right]$$~~

$$3(d) 150,000 = \frac{\text{EMI}}{0.01} \left[ 1 - \frac{1}{(1.01)^{15}} \right]$$

$$\text{EMI} = \text{Rs } 10818.567$$

(4)

$$4(a) \quad \text{No. of shares} = 320$$

$$\text{Face value} = \text{Rs } 10.$$

$$\text{Per share Market Price} = \text{Rs } 120. \quad \text{Brokerage} = 0.4\% \text{ of } 120 = 0.48$$

$$\text{M.P. of 320 shares} = \frac{120 \times 320}{120 + 0.48} = 38400 - 120 \cdot 48 \times 320 = \text{Rs } 38553.6$$

$$\text{Rate of Dividend} = 40\%.$$

$$\Rightarrow \text{Total dividend} = \frac{40}{100} \times 10 \times 320 \\ = \text{Rs } 1,280$$

$$\text{S.P. of one share} = \text{Rs } 160.$$

$$\text{Brokerage} = 0.4\% \text{ of } 160 = 0.64$$

$$\Rightarrow \text{Actual S.P.} = \text{Rs } 159.36$$

$$\text{Actual S.P. of 320 shares} = 159.36 \times 320 = \text{Rs } 50995.2.$$

$$\text{Profit} = 50995.2 - 38553.6 \\ = \text{Rs } 12441.6$$

$$\text{Net gain} = 12441.6 + 1280 \\ = \text{Rs } 13,721.6.$$

$$4(b) \quad \text{Net asset} = \frac{(25,000,000 + 30,000,000 + 20,000,000)}{1,20,000} - (6,000,000 + 4,000,000)$$

$$= 54.166666 \dots$$

$$= 54.1667$$

4(c) Investment = Rs 20,000 ⑤

NAV = Rs 25.8

Entry load = 2.25% of 25.8 = 0.5805

Purchase NAV = Rs 26.3805

Total no. of units =  $\frac{20,000}{26.3805} = 758.135744$

Dividend = Rs 5 per unit.

Total dividend =  $5 \times 758.135744 = \text{Rs } 3790.6787$

At the time of selling,

NAV = Rs  $x$

exit load = 1% of  $x$   
 $= 0.01x$

Per unit S.P. =  $1.01x$

Total S.P. =  $\text{Rs } 765.717101x$

Total gain = S.P - P.P + Total dividend

$$6,682.588 = \cancel{1.01x} - 20,000 + 3790.6787$$

$$\cancel{1.01x} = 22891.9093$$

$$6,682.588 = 765.717101x - 20000 + 3790.6787$$

$$x = \frac{22891.9093}{765.717101}$$

$$x = \text{Rs } 29.89$$

(6)

Date: \_\_\_\_\_

4(d)

No. of shares = 600

Face value = Rs 10

M.P. = Rs  $x$ Brokerage = 0.8% of  $x$ = 0.008 $x$  $\therefore$  Actual MP = 1.008 $x$ M.P. of 600 shares = 1.008 $x \times 600$ 1,451.52 = 604.8 $x$ 

$$x = \text{Rs } 240$$