

Solutions

S1. Ans(c)

Sol.

$$110 \times \frac{420}{70} + 500 - 40 = ? \times \frac{5600}{100}$$

$$660 + 460 = 56 \times ?$$

$$? = \frac{1120}{56}$$

$$? = 20$$

S2. Ans(d)

Sol.

$$630 \times ? + 1200 - \frac{55}{100} \times 16000 = \frac{20}{100} \times 9250$$

$$630 \times ? + 1200 - 8800 = 1850$$

$$? = \frac{9450}{630}$$

$$? = 15$$

S3. Ans.(b)

Sol.

$$\sqrt{(525 - 490)^2 \div (245)^2} = ? - \frac{252}{294}$$

$$\frac{35}{245} + \frac{252}{294} = ?$$

$$\frac{1}{7} + \frac{6}{7} = ?$$

$$? = 1$$

S4. Ans.(d)

Sol.

$$\frac{(263+?)}{7} + \sqrt[3]{1331} = (19)^2 - 290$$

$$\frac{(263+?)}{7} + 11 = 71$$

$$? = 420 - 263$$

$$? = 157$$

S5. Ans.(a)

Sol.

$$727 + (14)^2 - \sqrt{529} = \frac{?}{100} \times 5000$$

$$727 + 196 - 23 = 50 ?$$

$$? = \frac{900}{50} = 18$$

S6. Ans.(c)

Sol.

Let A's expenditure = $100x$

So, B's expenditure = $40x$

C's expenditure = $\frac{40x}{80} \times 100 = 50x$

Required% = $\frac{100x \times 100}{50x} = 200\%$

S7. Ans.(a)

Sol.

Favorable events = [2G, 2R]

Required probability = $\frac{{}^3C_2 + {}^2C_2}{{}^6C_2}$

$$= \frac{3 + 1}{15} = \frac{4}{15}$$

S8. Ans.(a)

Sol.

Total quantity $\Rightarrow 80$ liter

Water = $\frac{80 \times 40}{100} = 32$ liter

Wine $\Rightarrow 80 - 32 = 48$

Let x liter of water be added

$$\frac{48}{32+x} = \frac{40}{60}$$

$$48 \times 3 = 32 \times 2 + 2x$$

$$x = 40 \text{ l}$$

S9. Ans.(a)

Sol.

$$\text{Speed of car} = \frac{2125}{17} = 125 \text{ km/hr}$$

$$\text{Speed of train} = \frac{125 \times 4}{5} = 100 \text{ km/hr}$$

$$\text{Speed of bus} = 100 - 20 = 80 \text{ km/hr}$$

S10. Ans.(a)

Sol.

We know, % Discount = 20% = % mark up

Let cost price be Rs. 100x.

$$\therefore \text{marked price} = 120x$$

$$\& \text{ selling price} = 96x$$

ATQ,

$$100x - 96x = 50$$

$$\therefore x = 12.5$$

$$\therefore \text{cost price} = 12.5 \times 100 = \text{Rs. } 1250$$

S11. Ans.(b)

Sol.

$$\text{Required ratio} = \frac{8000 \times \frac{90}{100} \times \frac{20}{100}}{15000 \times \frac{90}{100} \times \frac{55}{100}} = 32 : 165$$

S12. Ans.(d)

Sol.

$$\begin{aligned} \text{No. of votes got by loser} &= 15000 \times \frac{90}{100} \times \frac{55}{100} \times \frac{48}{100} \\ &= 3564 \end{aligned}$$

S13. Ans.(a)

Sol.

$$\text{Required average} = \frac{10000 \times \frac{90}{100} \times \frac{60}{100} + 12000 \times \frac{90}{100} \times \frac{90}{100}}{2}$$

$$= 7560$$

S14. Ans.(c)

Sol.

No. of votes by which winner won

$$= 13500 \times \frac{90}{100} \times \frac{80}{100} \left[\frac{60}{100} - \frac{40}{100} \right]$$

$$= 13500 \times \frac{90}{100} \times \frac{80}{100} \times \frac{20}{100}$$

$$= 1944$$

S15. Ans.(e)

Sol.

$$\text{Valid votes casted in village C} = 8000 \times \frac{90}{100} \times \frac{80}{100}$$

$$= 5760$$

$$\text{Valid votes casted in village A} = 10000 \times \frac{90}{100} \times \frac{60}{100}$$

$$= 5400$$

$$\text{Required percent} = \frac{(5760-5400)}{5400} \times 100$$

$$= \frac{360}{5400} \times 100$$

$$= 6\frac{2}{3}\%$$

No. of valid votes casted in village C were $6\frac{2}{3}\%$ more than in village A.