

Quantitative Aptitude for RRB NTPC (Solutions)

S1. Ans.(a)

Sol.

$$\text{Relative speed} = 90 - 18 = 72 \text{ kmph}$$

Or, 20 m/s

$$\text{Required time} = \frac{240}{20} = 12 \text{ sec}$$

S2. Ans.(d)

Sol.

$$\text{Required angle} = \frac{360^\circ}{8} = 45^\circ$$

S3. Ans.(d)

Sol.

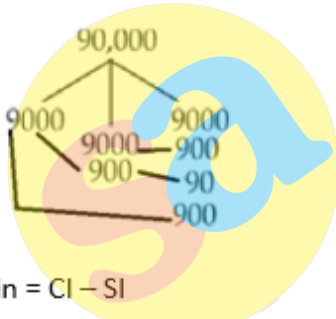
$$\text{Cost price} = 2970 \times \frac{100}{110}$$

= Rs 2700

S4. Ans.(a)

Sol.

$$10\% = \frac{1}{10}$$



$$\text{Gain} = \text{CI} - \text{SI}$$

$$= 900 + 900 + 900 + 90$$

= Rs 2790

S5. Ans.(b)

Sol.

$$\frac{1}{4}A = \frac{1}{2}B$$

$$A : B = 2 : 1$$

So,

$$3 \text{ units} \rightarrow \text{Rs } 1500$$

$$2 \text{ units} \rightarrow \frac{2}{3} \times 1500 = \text{Rs } 1000$$

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S6. Ans.(c)

Sol. Required value is 4 : 19 : 36

S7. Ans.(b)

Sol.

$$3x + 4x + 5x = 180$$

$$12x = 180$$

$$x = 15$$

Angles are 45° , 60° , 75°

S8. Ans.(b)

Sol.

$$2\cos^2x - (1 - \cos^2x) = -1/4$$

$$3\cos^2x = \frac{3}{4}$$

$$\cos x = \frac{1}{2}$$

$$\Rightarrow x = 60^\circ$$

S9. Ans.(a)

Sol.

$$a^2 + \frac{1}{a^2} = 3^2 - 2 = 7$$

$$a^4 + \frac{1}{a^4} = 7^2 - 2 = 49 - 2 = 47$$

S10. Ans.(b)

Sol.

$$(20 + 20 \div 5 - 2) + 1$$
$$= 23$$

S11. Ans.(a)

Sol.

$$16 \frac{2}{3} \% = \frac{1}{6}$$

i.e. CP = 6 units,

Loss = 1 unit

So, SP = 5 units

5 units \rightarrow Rs 250

6 units \rightarrow Rs 300

S12. Ans.(b)

Sol.

$$\frac{a^2 - ab + b^2}{a^2 + b^2} \Rightarrow \frac{1}{a+b} = \frac{1}{597+3}$$
$$= \frac{1}{600}$$

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TEST SERIES

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**RRB NTPC
PREMIUM**

◆ CBT-I and CBT-II

◆ 30 Previous Year Papers

120 TOTAL TESTS

S13. Ans.(d)

Sol.

$$\begin{aligned} \text{Difference} &= \frac{521}{999} - \frac{297}{999} \\ &= \frac{224}{999} \end{aligned}$$

S14. Ans.(a)

Sol.

$$\begin{aligned} SI &= \frac{PRT}{100} \\ \Rightarrow 1960 &= \frac{14000 \times 7 \times T}{100} \\ \Rightarrow T &= 2 \text{ yrs} \end{aligned}$$

S15. Ans.(d)

Sol.

$$\text{Speed} = \frac{2+3}{5} = 1 \text{ m/s}$$

S16. Ans.(b)

Sol.

$$\begin{aligned} x + x - 4 &= 90 \\ 2x &= 94 \\ x &= 47 \end{aligned}$$

S17. Ans.(b)

Sol.

$$\begin{aligned} \frac{4\sin^2\theta}{\sin^2 2\theta} - \frac{(1-\cos^2\theta)}{\cos^2\theta} \\ &= \frac{4\sin^2\theta}{4\sin^2\theta \cos^2\theta} - \frac{\sin^2\theta}{\cos^2\theta} \\ \Rightarrow \sec^2\theta - \tan^2\theta &= 1 \end{aligned}$$

S18. Ans.(c)

Sol.

$$\begin{aligned} \text{Atq,} \\ 7x - 3x &= 4x \rightarrow \text{Rs } 1600 \\ x &\rightarrow \text{Rs } 400 \\ \text{D's share} &= 4x \rightarrow \text{Rs } 1600 \end{aligned}$$

S19. Ans.(a)

Sol.

$$\begin{aligned} 4 \text{ units} &\rightarrow 24 \text{ mins} \\ 1 \text{ unit} &\rightarrow 6 \text{ mins} \\ 9 \text{ units} &\rightarrow 9 \times 6 = 54 \text{ mins} \end{aligned}$$

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TEST SERIES

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RRC GROUP D
PREMIUM

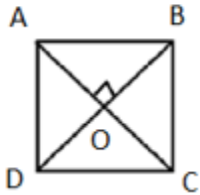
35 TOTAL TESTS

Validity : 12 Months

S20. Ans.(b)

Sol.

$$\angle AOB = 90^\circ$$



S21. Ans.(c)

Sol.

$$A = \frac{2}{9}(B + C)$$

$$B + C = \frac{9}{2}A$$

$$\text{So, } A + \frac{9}{2}A = 60500$$

$$11A = 60500 \times 2 \Rightarrow A = \text{Rs. } 11000$$

And

$$B = \frac{3}{7}(A + C) \Rightarrow A + C = \frac{7B}{3}$$

$$B + \frac{7}{3}B = 60500 \Rightarrow B = \text{Rs. } 18150$$

$$C = 60500 - 11000 - 18150 = \text{Rs. } 31350$$

S22. Ans.(a)

Sol.

Total age of 6 teachers = $6x$

New average age of teachers

$$= \frac{6x + 4x + 10}{10} = x + 1$$

S23. Ans.(d)

Sol. When selling price of two articles remain same and first article is sold at $x\%$ loss and second at $x\%$ profit then there

is always a loss of $\frac{x^2}{100}\%$

So, there would be $\frac{(32)^2}{100}\%$ loss

$$= 10.24\% \text{ loss}$$

S24. Ans.(d)

Sol.

Let water added = x litre

$$\frac{\frac{90}{100} \times 80 + x}{80 + x} = \frac{95}{100}$$

$$\frac{72 + x}{80 + x} = \frac{19}{20}$$

$$1440 + 20x = 1520 + 19x$$

$$x = 80 \text{ litre}$$

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S25. Ans.(b)

Sol.

Let slow speed = $6x$

And normal speed = $7x$

Time difference will occur only in remaining $3/5$ of distance

Let total distance = D

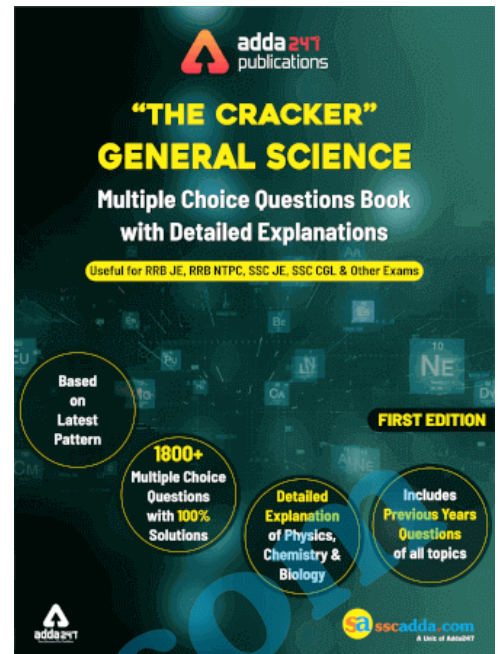
$$\frac{\frac{3}{5}D}{6x} - \frac{\frac{3}{5}D}{7x} = \frac{50}{60}$$

$$\frac{120}{6x} - \frac{120}{7x} = \frac{5}{6}$$

$$\frac{120(7-6)}{42x} = \frac{5}{6}$$

$$x = \frac{24}{7}$$

$$\text{Usual speed} = \frac{24}{7} \times 7 \text{ km} = 24 \text{ km/hr}$$



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