

Quantitative Aptitude Sunday Mega Quiz for RRB NTPC – (Solutions)

S1. Ans.(b)

Sol.

$$M : A \rightarrow 3 : 7$$

$$A : P \rightarrow 5 : 2$$

$$M : A : P \rightarrow 15 : 35 : 14 \rightarrow \text{Total} \rightarrow 64$$

$$64r \rightarrow 12000$$

$$1r \rightarrow \frac{12000}{64}$$

$$\text{Difference} \Rightarrow 35 - 15 = 20$$

$$20r \rightarrow \frac{12000}{64} \times 20 = 3750$$

S2. Ans.(b)

Sol.

$$D + A = 65$$

$$\frac{D - 10}{A - 10} = \frac{7}{2}$$

$$2D - 20 = 7A - 70$$

$$2D - 20 = 7A - 70$$

$$7A - 2D = 50$$

$$7A + 7D = 455$$

$$D = 45$$

$$A = 20$$

$$\text{Required Ratio} = \frac{45+12}{20+12} = \frac{57}{32}$$

S3. Ans.(c)

Sol.

$$\text{Minor girls} = 3750 \times \frac{3}{10} \times \frac{5}{15} = 375$$

S4. Ans.(c)

Sol.

$$2x \times \frac{1}{2} + 4x \times \frac{1}{4} + \frac{5x}{10} = 220$$

$$X = 88$$

$$\text{Total no of coins of 50p \& 10p} = 88 \times (2+4) = 528$$

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S5. Ans.(b)

Sol.

$$\frac{a + b + c}{b + c} = \frac{5 + 9 + 11}{9 + 11} = \frac{25}{20} = \frac{5}{4}$$

S6. Ans.(a)

Sol.

$$\text{New Ratio} = \frac{7 \times \frac{120}{100}}{8 \times \frac{110}{100}} = \frac{21}{22}$$

S7. Ans.(d)

Sol. Data Inadequate.

S8. Ans.(c)

Sol.

$$\frac{1}{3} : \frac{3}{4} : \frac{4}{5} \Rightarrow 20 : 45 : 48$$

$$\text{Second part} = \frac{45}{113} \times 565 = 225$$

S9. Ans.(d)

Sol.

A : B : C : D

$$= 2 \times 4 \times 6 : 3 \times 4 \times 6 : 3 \times 5 \times 6 : 3 \times 5 \times 7$$

$$= 48 : 72 : 90 : 105$$

$$= 16 : 24 : 30 : 35$$

S10. Ans.(b)

Sol.

$$\begin{aligned} c_m &= \frac{c_1 \times q_1 + c_2 \times q_2}{q_1 + q_2} \\ &= \frac{4 \times 3 + 9 \times 2}{3 + 2} \\ &= \frac{12 + 18}{5} = \frac{30}{5} = \text{Rs. } 6 \end{aligned}$$

S11. Ans.(d)

Sol.

$$P\% = M\% - D\% - \frac{MD}{100}$$

$$17\% = M\% - 10 - \frac{M}{10}$$

$$27 = \frac{9M}{10}$$

$$M = 30\%$$

S12. Ans.(a)

Sol.

Working together they will finish the work in

$$\begin{aligned} &= \frac{4 \times 12}{4 + 12} \\ &= \frac{4 \times 12}{16} \\ &= 3 \text{ days} \end{aligned}$$

S13. Ans.(d)

Sol.

$$A \rightarrow \frac{1}{4}^{\text{th}} \rightarrow 10$$

$$1 \text{ work} \rightarrow 40 \text{ days}$$

$$B \rightarrow \frac{1}{3}^{\text{rd}} \rightarrow 20 \text{ days}$$

$$1 \text{ work} \rightarrow 60 \text{ days}$$

Time will both finish work in

$$\begin{aligned} &= \frac{60 \times 40}{100} \\ &= 24 \text{ days} \end{aligned}$$

S14. Ans.(b)

Sol.

Circumference of wire

$$= 2 \times \frac{22}{7} \times 56$$

$$= 352 \text{ cm}$$

Perimeter of Rectangle = $2(l + b)$

$$l : b = 9 : 7$$

$$l \rightarrow 9x, b \rightarrow 7x$$

$$\text{Perimeter} = 2(9x + 7x)$$

$$= 32x$$

$$32x = 352$$

$$x = 11$$

$$\text{Smaller side} = 7 \times 11$$

$$= 77 \text{ cm}$$

S15. Ans.(b)

Sol.

$$C.P = 320$$

$$S.P = 3200 \times \frac{125}{100}$$

$$= 4000 \text{ Rs.}$$

$$M.P \times \frac{80}{100} = 4000$$

$$M.P = 5000 \text{ Rs.}$$

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S16. Ans.(d)

Sol.

$$\begin{aligned}\text{Distance} &= 55 \times 4 \\ &= 220 \text{ km}\end{aligned}$$

$$\text{Time} = \frac{220}{60}$$

$$= \frac{11}{3}$$

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

$$= 3\text{h } \frac{2}{3} \times 60$$

$$= 3 \text{ h } 40 \text{ min}$$

Time is reduced by 20 min

S17. Ans.(b)

Sol.

$$\frac{8000 \times 3 \times t}{100} = \frac{6000 \times 5 \times 4}{100}$$

$$t = \frac{6 \times 5 \times 4}{8 \times 3}$$

$$t = 5 \text{ years}$$

S18. Ans.(c)

Sol.

$$\Rightarrow \frac{(243)^{n/5} \times 3^{2n+1}}{9^n \times 3^{n-1}}$$

$$\Rightarrow \frac{3^{5 \times \frac{n}{5}} \times 3^{2n+1}}{3^{2n} \times 3^{n-1}}$$

$$\Rightarrow \frac{3^n \times 3^{2n+1}}{3^n \times 3^{2n+1}}$$

$$\Rightarrow \frac{3^{3n-1}}{3^{3n} \times 3}$$

$$\Rightarrow \frac{3}{3^{3n} \times 3^{-1}}$$

$$= \frac{3}{1/3} = 9$$

S19. Ans.(b)

Sol.

$$\frac{\text{Sum}_{50}}{50} = 38$$

$$\text{Sum}_{48} + 45 + 55 = 1900$$

$$S_{48} = 1900 - 100 = 1800$$

$$\text{Average}_{48} = \frac{1800}{48}$$

$$= 37.5$$

S20. Ans.(d)

Sol.

$$x \sin^2 60^\circ - \frac{3}{2} \sec 60^\circ$$

$$\tan^2 30^\circ + \frac{4}{5} \sin^2 45^\circ \tan^2 60^\circ = 0$$

$$x \times \frac{3}{4} - \frac{3}{2} \times 2 \times \frac{1}{3} + \frac{4}{5} \times \frac{1}{2} \times 3 = 0$$

$$x \times \frac{3}{4} - 1 + \frac{6}{5} = 0$$

$$\frac{3x}{4} + \frac{1}{5} = 0$$

$$x = -\frac{4}{15}$$

S21. Ans.(b)

Sol.

$$A : B = 3 : 4$$

$$B : C = 3.50 : 3$$

$$A : B : C = 10.5 : 14 : 12$$

$$36.5r \rightarrow 730$$

$$1r \rightarrow 20 \text{ Rs}$$

$$\text{Difference b/w ratio of B \& C} = 14 - 12 = 2$$

$$2r \rightarrow 40 \text{ Rs}$$

S22. Ans.(b)

Sol.

Compound Ratio

$$= \frac{yz}{x} \times \frac{zx}{y} \times \frac{xy}{z}$$

$$= xyz : 1$$

S23. Ans.(b)

Sol.

$$A : B = 5 : 4$$

$$B : C = 9 : 10$$

$$A : B : C = 45 : 36 : 40$$

$$121r \rightarrow 2420$$

$$1r \rightarrow 20$$

$$\text{C gets} \rightarrow 20 \times 40$$

$$= 800 \text{ Rs}$$

S24. Ans.(b)

Sol.

Original	Assam	:	Darjeeling
	S	:	2
	↓		↓
	35kg		14kg

New = 2 : 1

2r → 35 kg

1 → 17.5 kg

Increased value = 17.5 - 14

= 3.5 kg

S25. Ans.(c)

Sol.

Fail	:	Passed
2	:	9
↓		↓
24		108

New Passed	:	Fail
112	:	24
↓		↓
28		3

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