

Quant Mega Quiz for RRB NTPC Exams (Solutions)

S1. Ans.(b)

Sol.

value of $(90\% - 83\%)x = 175$, 7% of $x = 175$, $100\% = 2500$
 99% of $2500 = 2475$

S2. Ans.(a)

Sol.

$$\text{Ratio of volume} = \frac{\frac{1}{3}\pi r_1^2 h_1}{\frac{1}{3}\pi r_2^2 h_2} = \frac{9}{1} \times \frac{1}{3} = 3 : 1$$

S3. Ans.(d)

Sol.

Ratio of profit be
 $2 \times 6 : 3 \times 4 : 4 \times 3 = 12 : 12 : 12 = 1 : 1 : 1$

S4. Ans.(a)

Sol.

$$\frac{n_1 - 1}{16} = \frac{n_2 - 1}{t_2}$$

$$\frac{2}{16} = \frac{4}{t_2}$$

$$t_2 = 32 \text{ years}$$

S5. Ans.(a)

Sol.

Amount = Rs. $(30000 + 4347) = \text{Rs. } 34347$.
 Let the time be n years.
 Then, $30000 (1 + 7/100)^n = 34347$
 $(107/100)^n = 34347/30000 = 11449/10000 = (107/100)^2$
 So, the period is 2 years.

S6. Ans.(b)

Sol.

Number = $740 \times 35/100 - 34 = 225$
 $2/5$ of the number = 90

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35 TOTAL TESTS

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S7. Ans.(d)

Sol.

$$2x + 3y = 87$$

$$\underline{3x - 3y = 48}$$

$$5x = 135$$

$$x = 27$$

S8. Ans.(b)

Sol.

$$\text{No. of revolutions} = \frac{\text{Distance travelled}}{\text{Circumference}}$$

$$\begin{aligned} &= \frac{176 \times 100}{2\pi r} \\ &= \frac{176 \times 100 \times 7}{2 \times 22 \times 20} \\ &= 140 \end{aligned}$$

S9. Ans.(b)

Sol.

$$2\pi rh = 264$$

$$\pi^2 h = 924$$

$$\frac{\pi r^2 h}{2\pi rh} = \frac{924}{264}$$

$$\frac{r}{2} = \frac{924}{264}$$

$$\frac{r}{2} = \frac{924}{264}$$

$$r = 7$$

$$D = 14$$

$$2 \times \frac{22}{7} \times 7 \times h = 264$$

$$h = 6$$

$$D : h = 14 : 6$$

$$= 7 : 3$$

S10. Ans.(a)

Sol.

$$V = 729 \text{ cm}^3$$

$$\text{Volume of cube} = \left(\sqrt{\frac{\text{surface area}}{6}} \right)^3$$

$$\sqrt[3]{729} = \sqrt{\frac{\text{surface area}}{6}}$$

$$9 = \sqrt{\frac{\text{surface area}}{6}}$$

$$81 = \frac{\text{surface area}}{6}$$

$$\text{Surface area} = 486 \text{ cm}^2$$

S11. Ans.(a)

Sol.

$A + B = B + C + 12$
 $A - C = 12$
C is 12 years younger than A

S12. Ans.(c)

Sol.

Present $\rightarrow R : M \rightarrow 5 : 6$
8 year hence $\rightarrow R : M \rightarrow 7 : 8$
(7-5) or (8-6)
 $2r \rightarrow 8$ yrs
 $1r \rightarrow 4$ yrs
Present age of Ram = $5 \times 4 = 20$ yrs

S13. Ans.(c)

Sol.

Salary of y = 100
Salary of x = $100 \times \frac{120}{100}$
= 120
Required % = $\frac{20}{120} \times 100$
= $\frac{50}{3}$ %

S14. Ans.(b)

Sol.

$B = \frac{160}{100} A$
Efficiency $\rightarrow A : B = 5 : 8$
Time ratio $\rightarrow A : B = 8 : 5 \left[\text{Time} \times \frac{1}{\text{Efficiency}} \right]$
8 ratio $\rightarrow 24$ days
5 ratio $\rightarrow 3 \times 5$
= 15 days
B will take 15 days

S15. Ans.(a)

Sol.

Let present value of equipment = 100
Value after 3 yrs = $100 \times \frac{80}{100} \times \frac{80}{100} \times \frac{80}{100}$
= 51.2
Value Deposited by = $100 - 51.2$
= 48.8 %

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S16. Ans.(a)

Sol.

Passed → 93%, Failed → 7%

7% → 259

100% → 3700

Total students ⇒ 3700

S17. Ans.(d)

Sol.

Upstream speed = B - 3

12 = 3 (B - 3)

12 = 3B - 9

21 = 3B

B = 7

Speed of Boat = 7

S18. Ans.(b)

Sol.

$$SI - CI = P \left(\frac{r}{100} \right)^2$$

$$20 = P \times \left(\frac{1}{10} \right)^2$$

P = 2000 Rs

S19. Ans.(b)

Sol.

Profit = 850 - CP

Loss = CP - 650

850 - CP = CP - 650

1500 = 2CP

CP = 750 Rs

S20. Ans.(c)

Sol.

Sum of 1st 20

Odd numbers

$$= n^2$$

$$= 20^2$$

$$= 400$$

S21. Ans.(b)

Sol.

$$\frac{\text{Volume of cylinder}}{\text{Volume of cone}} = \frac{\pi r^2 h}{\frac{1}{3} \pi r^2 h}$$

$$= 3 : 1$$

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25 Previous Year Papers

Bilingual | Validity : 2 Months

S22. Ans.(a)

Sol.

$$1348.32 = 1200 \left(1 + \frac{r}{100}\right)^2$$
$$\frac{11236}{10000} = \left(1 + \frac{r}{100}\right)^2$$
$$\frac{106}{100} = 1 + \frac{r}{100}$$
$$r = 6\%$$

S23. Ans.(b)

Sol.

$$A = 85000 \times \frac{106 \times 106 \times 106}{100 \times 100 \times 100}$$
$$= 101236.36$$
$$CI = 101236.36 - 85000$$
$$= 16236.36 \text{ Rs}$$

S24. Ans.(c)

Sol.

$$\pi r^2 \times \frac{120^\circ}{360^\circ} = \frac{66}{7}$$
$$\frac{22}{7} \times r^2 \times \frac{1}{3} = \frac{66}{7}$$
$$r^2 = 3 \times 3$$
$$r = 3 \text{ cm}$$

S25. Ans.(b)

Sol.

$$R = S + 7$$

$$S : R = 7 : 9$$

$$R = 9x, S = 7x$$

$$7x = 9x + 7$$

$$2x = 7$$

$$\text{Sachin} = \frac{7 \times 7}{2}$$
$$= \frac{49}{2} = 24.5$$

S26. Ans.(c)

Sol.

$$\text{CP of dozen} = P$$

$$\text{SP of dozen} = \frac{P}{8} \times 12$$

$$\text{Profit \%} = \frac{0.5P}{P} \times 100$$

$$= 50\%$$

S27. Ans.(c)

Sol.

5%, 10%

$$\text{Single} \Rightarrow -5 - 10 + 0.5$$

$$= -15 + 0.5$$

$$= 14.5$$

14.5%, 20%

$$\text{Single} = -14.5 - 20 + 2.9$$

$$= -34.5 + 2.9$$

$$= -31.6\%$$

S28. Ans.(a)

Sol.

Loss = 4%

$$\frac{1}{25} \rightarrow \text{Loss}$$

24r → C. P.

$$24r \rightarrow 240$$

$$1r \rightarrow 10$$

$$25r \rightarrow 250$$

$$\text{CP} \rightarrow 250$$

$$\text{SP} = 250 \times \frac{110}{100}$$

$$= 275$$

S29. Ans.(d)

Sol.

LCM × HCF = Product of numbers

$$48 \times 8 = 24 \times b$$

$$B = 16$$

S30. Ans.(d)

Sol.

$$2x + 5x + 3x = 180$$

$$10x = 180$$

$$x = 18$$

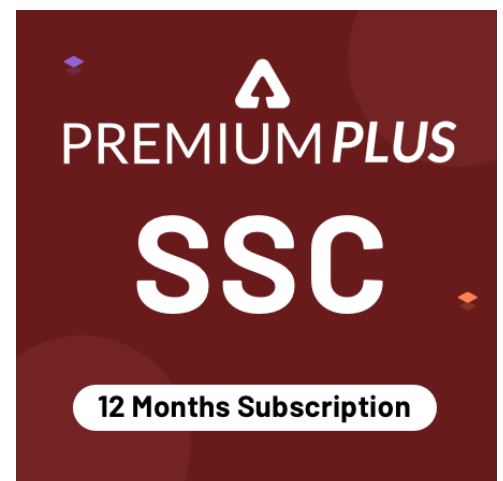
$$\text{Least angle} = 18 \times 2 = 36^\circ$$

$$1^\circ = \frac{\pi^c}{180}$$

$$36^\circ = 36 \times \frac{\pi^c}{180}$$

$$= \frac{\pi}{5} \text{radian}$$

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