

Quantitative Aptitude Sunday Quiz for SSC CHSL (Solutions)

S1. Ans.(a)

Sol.

$$\begin{aligned} & (300 + 17)(300 + 17) + (300 - 17)(300 - 17) \\ &= (300 + 17)^2 + (300 - 17)^2 \\ &= [(300)^2 + (17)^2] \times 2 \\ &= [90000 + 289] \times 2 \\ &= [90289] \times 2 \\ &= 180578 \end{aligned}$$

S2. Ans.(b)

Sol.

Prime Number's between 50 & 65
 = 53, 59, 61
 Sum = 53 + 59 + 61 = 173

S3. Ans.(c)

Sol.

$$\begin{aligned} [5197]^{274} &= [7^4]^{68} \times 7^2 \\ &= [1]^{68} \times 9 \\ &= 9 \end{aligned}$$

S4. Ans.(c)

Sol.

1st term = 2
 Last term = 70, d = 2
 Total number $\frac{70-2}{2} + 1 = 35$
 Sum = $n(n+1) = 35 \times 36 = 1260$

S5. Ans.(c)

Sol.

H.C.F of the given fraction

$$= \frac{\text{H.C.F of (3,9,81,15)}}{\text{L.C.M of (8,16,20,32)}}$$

$$= \frac{3}{160}$$

S6. Ans.(b)

Sol.

P : Q = 3 : 250

$$\frac{Q-P}{Q+P} = \frac{250-3}{250+3} = \frac{247}{253}$$

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S7. Ans.(a)

Sol.

$$\frac{3 + 5 + 7 + x}{4} = 7$$

$$x = 13$$

$$\frac{21+3+4+13+y}{5} = 9$$

$$y = 4$$

$$x - y = 13 - 4 = 9$$

S8. Ans.(a)

Sol.

$$\begin{aligned} \text{Average} &= \frac{\text{Sum of 1st 100 natural number}}{100} \\ &= \frac{100(100+1)}{2 \times 100} \\ &= 50.5 \end{aligned}$$

S9. Ans.(b)

Sol.

$$\text{Sum of all the numbers} = 8p$$

$$\text{Sum of Four number} = 4q$$

$$\text{Sum of other four numbers} = 4s$$

$$2p = q + s$$

S10. Ans.(a)

Sol.

Let the numbers be $3x$ and $5x$.

$$15x^2 = 225$$

$$x^2 = 15$$

$$x = \sqrt{15}$$

$$\text{Difference} = 2x$$

$$= 2\sqrt{15}$$

S11. Ans.(a)

Sol.

$$V_1 : V_2 = 1 : 1$$

$$\pi r_1^2 h_1 : \pi r_2^2 h_2 = 1 : 1$$

$$\frac{r_1^2}{r_2^2} \times \frac{1}{2} = \frac{1}{1}$$

$$r_1 : r_2 = \sqrt{2} : 1$$

S12. Ans.(a)**Sol.**

$$\text{External radius} = \frac{8}{2} = 4 \text{ cm}$$

$$\text{Thickness} = 1 \text{ cm}$$

$$\text{Internal Radius} = 4 - 1 = 3 \text{ cm}$$

Volume of Material

$$= \pi h(R^2 - r^2) = \frac{22}{7} \times 21 \times (4^2 - 3^2) = 462 \text{ cm}^3$$

$$1 \text{ cm}^3 \text{ Iron} \rightarrow 8 \text{ gm}$$

$$462 \text{ cm}^3 \text{ Iron} \rightarrow \frac{462 \times 8}{1000} \text{ kg}$$

$$= 3.696 \text{ kg}$$

S13. Ans.(b)**Sol.**

Let water raised be x.

$$2 \times \frac{4}{3} \pi \times (3)^3 = \pi \times (6)^2 \times x$$

$$72\pi = \pi \times 36x$$

$$x = 2 \text{ cm}$$

S14. Ans.(a)**Sol.**

$$\frac{\pi(3)^2 \times n}{\pi(2^2) \times 1} = \frac{3}{1}$$

$$\frac{9}{4} \times \frac{n}{1} = 3$$

$$n = \frac{4}{3}$$

S15. Ans.(a)**Sol.**

Volume of water flow per second

$$= \pi r^2 h = \frac{22}{7} \times \frac{7}{2} \times \frac{7}{2} \times 12 = 462 \text{ cm}^3$$

Volume of water pumped out in 1 hour

$$= 462 \times 60 \times 60 \text{ cm}^3 = 1663200 \text{ cm}^3 = 1663.2 \text{ liters}$$

S16. Ans.(d)**Sol.**

Let Radius = r cm, h = 16 cm

$$2\pi r h = 1056$$

$$2 \times \frac{22}{7} \times r \times 16 = 1056$$

$$r = \frac{21}{2} \text{ cm}$$

Volume = $\pi r^2 h$

$$= \frac{22}{7} \times \frac{21}{2} \times \frac{21}{2} \times 16 = 5544 \text{ cm}^3$$

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S17. Ans.(c)

Sol.

Volume of solid cylinder = $\pi r^2 h$

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

Difference = $\pi r^2 h - \frac{1}{3} \pi r^2 h$

= $\frac{2}{3} \pi r^2 h = 628.57$ cubic cm

S18. Ans.(d)

Sol.

$$\frac{2\pi rh}{2\pi rh + 2\pi r^2} = \frac{1}{2}$$

$$\frac{2\pi rh}{616} = \frac{10}{2}$$

$$2\pi rh = 308 \quad \dots(i)$$

$$2\pi rh + 2\pi r^2 = 616 \quad \dots(ii)$$

From (i) and (ii)

$$r = 7 \quad \dots(iii)$$

From (i) and (iii)

$$h = 7$$

$$\text{Volume} = \pi r^2 h = \frac{22}{7} \times 7 \times 7 \times 7 = 1078 \text{ cm}^3$$

S19. Ans.(a)

Sol.

$$\text{Diagonal} = \sqrt{3a^2}, \sqrt{3}a = 2\sqrt{3}, a = 2$$

$$\text{Volume} = a^3 = 8$$

S20. Ans.(a)

Sol.

$$\text{Ratio of volume} = 27 : 1$$

$$\text{Ratio of edges} = \sqrt[3]{\left(\frac{27}{1}\right)} = 3 : 1$$

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