

Quant Quiz For SSC CGL [Beginner Level] : 10th November (Solutions)

S1. Ans.(d)

Sol. $\Rightarrow \frac{0.03 \times 0.18 + 0.05}{0.0004}$
 $\Rightarrow \frac{0.0554}{0.0004}$
 $\Rightarrow \frac{554}{4} \Rightarrow 138.5$

S2. Ans.(a)

Sol. $(24)^2 + (25)^2 = 576 + 625 = 1201$
 Nearest Square = 1156
 Answer = 1201 - 1156 = 45

S3. Ans.(a)

Sol. $x + y = 16 \dots (i)$
 $10x + y = 10y + x - 18$
 $9y - 9x = 18$
 $y - x = 2 \dots (ii)$
 From (i) & (ii)
 $y = 9, x = 7$
 Number = 79

S4. Ans.(c)

Sol. $\Rightarrow 8\sqrt{2} + 9\sqrt{2} + 5\sqrt{3} - 7\sqrt{3} - 3\sqrt{2}$
 $= 17\sqrt{2} - 2\sqrt{3} - 3\sqrt{2}$
 $= 14\sqrt{2} - 2\sqrt{3} = 2(7\sqrt{2} - \sqrt{3})$


S5. Ans.(c)

Sol. Remaining after painting = $1 - \frac{1}{6} - \frac{1}{3} = \frac{1}{2}$
 $\frac{1}{2} \text{ unit} \rightarrow 9\text{m}$
 1units $\Rightarrow 18\text{m}$

S6. Ans.(c)

Sol. cube Root of 12167 = 23
 Product = $23 \times 729 = 16767$

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S7. Ans.(a)**Sol.** Product of two Numbers = L.C.M \times H.C.F

$$20826 = \text{L.C.M} \times 26$$

$$\text{L.C.M} = 801$$

S8. Ans.(d)**Sol.** $a - 2, a, a + 2$

$$a - 2 + a + a + 2 = 42$$

$$3a = 42$$

$$a = 14$$

middle Number $\Rightarrow 14$ **S9. Ans.(b)****Sol.** H.C.F of $(20 \text{ to } 16) = (2^2 \times 5, 2^4) = 2^2 = 4$ **S10. Ans.(d)**

Sol. $\frac{5}{8} = 0.62$

$$\frac{3}{4} = 0.75$$

$$\frac{13}{16} = 0.81$$

$$\frac{7}{12} = 0.58$$

S11. Ans.(b)

Sol. $\Rightarrow \frac{5}{2} \times \frac{7}{2} + \frac{17}{4} - \frac{26}{5}$

$$\Rightarrow \frac{52}{4} - \frac{26}{5}$$

$$\Rightarrow \frac{260 - 104}{20} = \frac{156}{20} = 7.8$$

S12. Ans.(b)

Sol. $\Rightarrow 17 \times 25 \div \frac{15}{18}$

$$\Rightarrow 17 \times 25 \times \frac{18}{15} = 510$$

S13. Ans.(a)

Sol. $\Rightarrow .0012 + .00015 + .012 - .00024$

$$\Rightarrow 0.1311 \cong 0.013$$

S14. Ans.(a)

Sol. $\frac{100}{4} + \frac{10000}{16} + \frac{1000000}{25} + \frac{100000000}{64}$

$$= 25 + 625 + 40000 + 1562500$$

$$= 1603150$$

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S15. Ans.(a)

$$\text{Sol.} \Rightarrow \frac{59}{4} + \frac{21}{4} - \frac{5}{2} - \frac{89}{8} + \frac{99}{8} - \frac{29}{4}$$

$$\Rightarrow \frac{118 + 42 - 20 - 89 + 99 - 58}{8}$$

$$\Rightarrow \frac{92}{8} = \frac{23}{2} = 11 \frac{1}{2}$$

S16. Ans.(b)

$$\text{Sol.} \Rightarrow 3 + \sqrt{3} + \frac{3-\sqrt{3}}{6} + \frac{3+\sqrt{3}}{6} + 3 - \sqrt{3}$$

$$\Rightarrow 6 + 1 \Rightarrow 7$$

S17. Ans.(a)

$$\text{Sol.} (2016)^2 - (2016 + 1)(2016 - 1)(2016 + 2)(2016 - 2) - (2016 + 3)(2016 - 3)$$

$$= (2016)^2 - [(2016)^2 - (1)^2] + [(2016)^2 - (2)^2] - [(2016)^2 - (3)^2]$$

$$= (2016)^2 - (2016)^2 + 1 + (2016)^2 - 4 - (2016)^2 + 9 = 6$$

S18. Ans.(d)

$$\text{Sol.} \Rightarrow \frac{625}{10000} \times \frac{1}{100} \times \frac{125}{100} \times \frac{25}{2} \times 512 \Rightarrow 5$$

S19. Ans.(b)

$$\text{Sol.} \Rightarrow \sqrt{4724 + \sqrt{1336 + \sqrt{1061 + \sqrt{772 + 12}}}}$$

$$\Rightarrow \sqrt{4724 + \sqrt{1336 + \sqrt{1061 + 28}}}$$

$$\Rightarrow \sqrt{4724 + \sqrt{1336 + 33}}$$

$$\Rightarrow \sqrt{4724 + 37}$$

$$= 69$$

S20. Ans.(a)

$$\text{Sol.} \Rightarrow 2 \times 2^{65} \times 4 \times 4^{65} = 8 \times 8^{65}$$

$$8 \times 8^{65} = 8^x, x = 66$$

S21. Ans.(d)

$$\text{Sol.} \sqrt[2]{8}, \sqrt[4]{13}, \sqrt[5]{16}, \sqrt[10]{41}$$

For comparison

$$8^{\frac{1}{2}}, 13^{\frac{1}{4}}, 16^{\frac{1}{5}}, 41^{\frac{1}{10}}$$

Take the LCM of power

$$8^{\frac{20}{2}}, 13^{\frac{20}{4}}, 16^{\frac{20}{5}}, 41^{\frac{20}{10}}$$

$$8^{10}, 13^5, 16^4, 41^2$$

$$64^5, 13^5, 16^4, 41^2$$

Clearly 64^5 is the greatest

So, required answer = $\sqrt[2]{8}$

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S22. Ans.(a)

Sol. Given

$$2^x = 3^y = 6^{-z} = k$$

$$2 = k^{\frac{1}{x}}, 3 = k^{\frac{1}{y}}, 6 = k^{-\frac{1}{z}}$$

$$2 \times 3 = k^{\frac{1}{z}}$$

$$k^{\frac{1}{x}} \times k^{\frac{1}{y}} = k^{-\frac{1}{z}}$$

$$\frac{1}{x} + \frac{1}{y} = -\frac{1}{z}$$

$$\frac{1}{x} + \frac{1}{y} + \frac{1}{z} = 0$$

S23. Ans.(b)

Sol. $2^3\sqrt{8 \times 5} - 4^3\sqrt{64 \times 5} + 3^3\sqrt{125 \times 5} - 3^3\sqrt{5}$
 $= 4^3\sqrt{5} - 16^3\sqrt{5} + 15^3\sqrt{5} - 3^3\sqrt{5} = 0$

S24. Ans.(c)

Sol. Required = $\sqrt{40 + \sqrt{9 \times 81}}$
 $= \sqrt{40 + \sqrt{9 \times 9}} = \sqrt{40 + 9} = 7$

S25. Ans.(b)

Sol. Given,

$$\frac{(x - \sqrt{24})(\sqrt{75} + \sqrt{50})}{(\sqrt{75} - \sqrt{50})} = 1$$

$$(x - \sqrt{24}) = \frac{\sqrt{75} - \sqrt{50}}{\sqrt{75} + \sqrt{50}} \times \frac{(\sqrt{75} - \sqrt{50})}{(\sqrt{75} - \sqrt{50})}$$

$$x - \sqrt{24} = \frac{75 + 50 - 2 \times \sqrt{75 \times 50}}{25}$$

$$x - 2\sqrt{6} = 5 - 2\sqrt{6}$$

$$x = 5$$

S26. Ans.(c)

Sol. Required $\sqrt{20} + \sqrt{12} + \sqrt[3]{729} - \frac{4}{\sqrt{5}-\sqrt{3}} - \sqrt{81}$
 $= 2\sqrt{5} + 2\sqrt{3} + 9 - 2(\sqrt{5} + \sqrt{3}) - 9 = 0$

S27. Ans.(a)

Sol. $\sqrt{2^3\sqrt{4x}} = x$

$$2^3\sqrt{4x} = x^2$$

$$8(4x) = x^6$$

$$32 = x^5$$

$$x = (32)^{\frac{1}{5}} = 2$$

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S28. Ans.(b)**Sol.**

$$2^{250}, 3^{150}, 5^{100}, 4^{200}$$

For comparison

Root divide by 50 or HCF

$$2^{\frac{250}{50}}, 3^{\frac{150}{50}}, 5^{\frac{100}{50}}, 4^{\frac{200}{50}}$$

$$2^5, 3^3, 5^2, 4^4$$

$$32, 27, 25, 256$$

Smallest are is = 25 or 5^{100} **S29. Ans.(d)****Sol.** Required value

$$2 + \frac{6}{\sqrt{3}} + \frac{1}{2 + \sqrt{3}} + \frac{1}{\sqrt{3} - 2}$$

$$= 2 + 2\sqrt{3} + \frac{2 - \sqrt{3}}{(2 + \sqrt{3})(2 - \sqrt{3})} - \frac{2 + \sqrt{3}}{(2 + \sqrt{3})(2 - \sqrt{3})}$$

$$= 2 + 2\sqrt{3} + 2 - \sqrt{3} - 2 - \sqrt{3}$$

$$= 2$$

S30. Ans.(b)**Sol.**

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

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

$$= 3^{n+2n+1-2n-(n-1)}$$

$$= 3^2 = 9$$

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