

Quantitative Aptitude Mega Quiz for SSC CGL (Solution)

S1. Ans.(a)

Sol.

$$\frac{141 \times 142 \times 143}{6} = \frac{3+4+5}{6} = \frac{12}{6} = \text{zero}$$

S2. Ans.(a)

Sol.

$$\begin{aligned} &= 9 + 20 + 12\sqrt{5} \\ &= 29 + k\sqrt{5} \\ \text{So, } k &= 12 \end{aligned}$$

S3. Ans.(d)

Sol.

$$3 + \sqrt{3} + \frac{6}{6} = 4 + \sqrt{3}$$

S4. Ans.(a)

Sol.

$$\begin{aligned} \sqrt{5 + 2\sqrt{6}} &= (\sqrt{3} + \sqrt{2}) \\ \text{So,} \\ \sqrt{3} + \sqrt{2} + \frac{1}{\sqrt{3} + \sqrt{2}} \\ \text{or, } \sqrt{3} + \sqrt{2} + \sqrt{3} - \sqrt{2} \\ \text{Or, } 2\sqrt{3} \end{aligned}$$

S5. Ans.(d)

Sol.

$$\begin{aligned} 3^{33} &= (3^3)^{11} = (27)^{11} \\ &= 27^9 \cdot 729 \end{aligned}$$

Clearly, $3^{33} > 333$

(as $729 > 333$)

So, statement III is true

& $33^3 = 33.1089$

Clearly, $33^3 > 333$

So, statement II is correct.

& $27^8 \cdot 19683 > 33.1089$

∴ Statement I is correct

So, I, II & III all are correct

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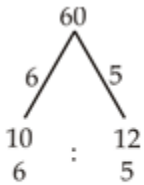
S6. Ans.(a)

Sol.

$$24 \times 45 = 18 \times x$$
$$12 \times 5 = 60 = x$$

S7. Ans.(c)

Sol.



$$\therefore \text{Difference} = \frac{1}{11} \times 2200$$
$$= 200$$

S8. Ans.(a)

Sol.

$$0.2MP = 0.3CP$$
$$MP = 1.5CP$$
$$\therefore \text{Profit \%} = 50\%$$

S9. Ans.(b)

Sol.

$$\text{I. } 25 + 25 - 6.25 = 43.75\%$$
$$\text{II. } 10 + 40 - 4 = 46\%$$
$$\text{III. } 20 + 30 - 6 = 44\%$$

Clearly, II is the best.

S10. Ans.(b)

Sol.

$$\text{Milk} = \frac{5}{7} \times 126 = 90 \text{ l}$$

$$\text{Water} = \frac{2}{7} \times 126 = 36 \ell$$

Now, new mix quantity of milk = 90 l

$$\text{So, } \frac{3}{5}x = 90$$

$$\text{Or, } x = 150 \ell$$

$$\therefore \text{Water} = \frac{2}{5} \times 150 = 60 \ell$$

So, required quantity = 60 - 36 = 24 ltr

S11. Ans.(b)

Sol.

$$x : y : z$$

$$3x : 2x : 3x - 24700$$

ATQ,

$$(3x - 24700) \times 100 = 2x \times 112$$

$$(3x - 24700) 25 = 56x$$

$$75x - 56x = 25 \times 24700$$

$$x = 25 \times 1300$$

$$x = 32500$$

$$\text{Total Voter} = 8 \times 32500 - 24700$$

$$= 260000 - 24700$$

$$= 235300$$

S12. Ans.(a)

Sol.

	Arun (Diesel)	Dev (Petrol)
(km in per. liter)	130	100
Price per liter	100Rs.	120 Rs.
Cost(per km)	1.3 Rs.	5/6
	$\frac{13}{10}$	$\frac{5}{6}$
	39	25

S13. Ans.(c)

Sol.

Let MP after giving two discount 12% and 13% = 100

Then SP = $100 \times \frac{90}{100} = 90$ After all discount

$$CP = \frac{90}{112} \times 100$$

If he give only 2 discounts 12% and 13% then 100 becomes selling price.

Ratio = CP : SP(New)

$$\frac{90 \times 100}{112} : 100$$

$$CP \quad SP \\ 90 : 112$$

Required profit percent = $\frac{112 - 90}{90} \times 100$

$$= \frac{2200}{90} = \frac{220}{9}$$

$$= 24.44\%$$

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S14. Ans.(a)

Sol.

Required percentage

$$\begin{aligned} &= \left[\frac{\frac{14.4}{160} - \frac{14.4}{208}}{14.4} \right] \times 100 \\ &= 14.4 \left[\frac{13 - 10}{14.4 \times 32 \times 5 \times 13} \right] \times 100 \\ &= \frac{3 \times 100}{32 \times 5 \times 13} = \frac{15}{104} = 0.144\% \end{aligned}$$

S15. Ans.(c)

Sol.

Let the cost of raw material = 100

New cost of raw material = 125

Old labour cost = 30

New labour cost = $125 \times \frac{40}{100} = 50$

Total cost = 130

New total cost = 175

Required % = $\frac{175 - 130}{175} \times 100$

$$\frac{45}{1.75} = \frac{45 \times 4}{7} = 25.7\%$$

S16. Ans.(a)

Sol.

$$57.26\% \rightarrow (1663.67 + 133.7214)$$

$$100\% \rightarrow \frac{1797.3914}{57.26} \times 100 = 3139$$

S17. Ans.(c)

Sol.

$$\left. \begin{aligned} \frac{V}{V+U} = \frac{72}{100} = \frac{18}{25} &\Rightarrow \begin{matrix} V = 18 \\ U = 7 \end{matrix} \end{aligned} \right) 11 \rightarrow 22 \text{ years}$$

Umabharti's present age = $7 \times 2 = 14$

15 year hence it will be = $14 + 15 = 29$ years

S18. Ans.(c)

Sol.

$$\frac{12}{100} \times a = b \Rightarrow b = \frac{3}{25} a$$

$$b\% \text{ of } 50 = \frac{3a}{25} \% \text{ of } 50$$

$$= 30\% \text{ of } \frac{a}{5}$$

S19.Ans(a)

Sol. LET C=100 then according a is 78% lesser than c and b is 71% lesser than c therefore ratio is

a	b	c
22	29	100

According to question

$$\text{Required percentage} = \frac{29-22}{22} \times 100 = 31.81\%$$

S20.Ans(a)

Sol.

Let No = x

$$X + 561 = 1.51x$$

$$0.51x = 561$$

$$x = 1100$$

S21.Ans(b)

Sol.

Let fruit-seller buys $100x$ bananas .

Now according to question,

$$40x \text{ SP} = 100x \text{ CP}$$

$$\text{SP} : \text{CP} = 5 : 2$$

Take SP of each banana is 5 and CP is 2,

$$80\% \text{ of the remaining bananas} = \frac{80}{100} \times 60x = 48x$$

SP of $48x$ will be overall profit of fruit seller since he has realized CP of all bananas by selling 40% of them,

$$\text{SP of } 48x \text{ bananas} = 3.5 \times 48x = 168x \dots\dots\dots$$

(SP is 3.5 since profit is half of previous)

$$\% \text{ profit} = \frac{168x}{100x \times 2} \times 100 = 84\%$$

S22. Ans.(d)

Sol.

Let CP = 100

S. P = 110

Now after 15% discount

$$\therefore \text{SP} = \text{MP} - 15\% \text{ of MP}$$

$$= \text{MP} - \frac{3}{20} \text{ of MP}$$

$$\text{SP} = \frac{17}{20} \text{ MP}$$

$$\therefore \text{MP} = \frac{\text{SP} \times 20}{17}$$

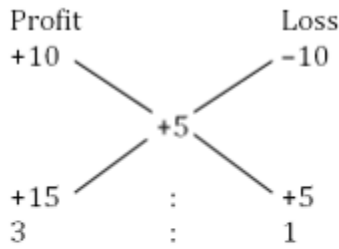
$$\text{MP} = \frac{110 \times 20}{17}$$

$$\text{MP} = 129.41$$

$$\therefore \text{Increased price} = 129.41 - 100 = 29.41$$

S23. Ans.(c)

Sol.



If total oranges are 4 then oranges of profit = 3

If total oranges are 12 then oranges at profit

$$= \frac{3}{4} \times 12 = 9 \text{ oranges}$$

S24. Ans.(c)

Sol.

	1 st		2 nd	
S.P.	960	+	960	=1920
C.P.	$\frac{960}{120} \times 100$	+	$\frac{960}{80} \times 100$	
	=800	+	=1200	=2000

$$\therefore \text{Loss} = 2000 - 1920 = 80$$

$$\therefore \text{Loss}\% = \frac{80}{2000} \times 100 = 4\%$$

S25. Ans.(b)

Sol. When a value is first increased and then decreased by the same percentage, then the initial value is always decreased by

$$\frac{x^2}{100} \% \text{ (irrespective of initial value)}$$

So, loss percent

$$= \frac{(15)^2}{100} = 2.25\%$$

S26. Ans.(c)

Sol.

$$\text{Let CP} = x$$

$$\text{SP} = \frac{5}{4}x$$

Now ATQ,

$$\frac{1}{4} \times \frac{5}{4}x - \frac{x}{4} = \frac{x}{20} + 100$$

$$\frac{5}{16}x - \frac{x}{4} = \frac{x}{20} + 100$$

$$\Rightarrow \frac{x}{16} - \frac{x}{20} = 100$$

$$= \frac{4x}{320} = 100$$

$$x = 8000$$

S27. Ans.(d)

Sol.

$$\begin{aligned} \text{CP} & \qquad \qquad \text{S.P} \\ (100\% - 100)\% \times \frac{124}{100} & = (120\% - 100) \\ 3100\% - 3100 & = 3000\% - 2500 \\ \backslash 100\% & = 600 \\ \backslash \text{CP} & = 600/- \end{aligned}$$

S28. Ans.(a);

Sol.

Let CP of 1 soap = x, CP of 1 toothpaste = 0.6x

$$\text{Total CP} = 20x + 7.2x = 27.2x$$

SP of 1 soap = 1.15x, SP of 1 toothpaste = 0.6x + 20

$$15(1.15x) + 8(0.6x + 20) - 19.8x = 385$$

$$x = 100, \text{ total CP} = 2720 \text{ Rs.}$$

SP of sold outsides = 22.05x + 160

$$= 2365 \text{ Rs.}$$

$$\text{Loss} = 2720 - 2365 = 355 \text{ Rs}$$

S29. Ans.(a)

Sol.

C.P. of articles = Rs. 100 (let)

$$\text{Marked price of articles} = \frac{(100 \times 130)}{130} = \text{Rs. } 130$$

$$\text{S. P. of half of articles} = \frac{130}{2} = \text{Rs. } 65$$

$$\text{S.P. of one-fourth of articles at 15\% discount} = \frac{65}{2} \times \frac{85}{100} = \text{Rs. } 27.625$$

$$\text{S. P. of remaining articles} = \frac{65}{2} \times \frac{70}{100} = \text{Rs. } 22.75$$

$$\text{Total S.P.} = \text{Rs. } (65 + 27.625 + 22.75)$$

$$= \text{Rs. } 115.375$$

$$\therefore \text{Profit\%} = 15.375\% = 15\frac{3}{8}\%$$

S30. Ans.(b)

Sol.

$$\text{Sita's investment} = 5000 \times 12 + 2000 \times 9 = 78000$$

$$\text{Gita's investment} = 4000 \times 12 - 1000 \times 11 = 37000$$

$$\text{Rita's investment} = 7000 \times 11 = 77000$$

$$\text{Ratio of profit} = 78 : 37 : 77$$

$$\text{Rita's share} = \frac{77}{192} \times 1218 = 488.47$$

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