

Quant Mega Quiz for SSC Tier-1 (Solutions)

S1. Ans.(a)

Sol.

Using Alligation

$$\begin{array}{r} 5\% \quad \quad 8\% \\ \quad \quad \quad 6\% \\ \hline 2 \quad : \quad 1 \end{array}$$

S2. Ans.(c)

Sol.

Milk : Water

Ist Container → 5 : 3

$$\text{Milk} = \frac{5}{8} = 0.625$$

$$\text{Water} = \frac{3}{8} = 0.375$$

Milk : Water

IInd Container → 2 : 1

$$\text{Milk} = \frac{2}{3} = 0.66$$

$$\text{Water} = \frac{1}{3} = 0.33$$

Milk : Water

IIIrd Container → 3 : 2

$$\text{Milk} = \frac{3}{5} = 0.6$$

$$\text{Water} = \frac{2}{5} = 0.4$$

Milk : Water

IVth Container → 7 : 4

$$\text{Milk} = \frac{7}{11} = 0.66$$

$$\text{Water} = \frac{4}{11} = 0.33$$

In Container ⇒ 3rd

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S3. Ans.(a)

Sol.

Acid : Water

25 liters → 4 : 1

$$\text{Acid} = \frac{4}{5} \times 25 = 20$$

$$\text{Water} = \frac{1}{5} \times 25 = 5$$

New Acid : Water

20 : 8

5 : 2

S4. Ans.(d)

Sol.

Loan Amount : Total Interest

5 : 2

Principal → 5

Interest for 1 year ⇒ 2

Interest for 5 year ⇒ 10

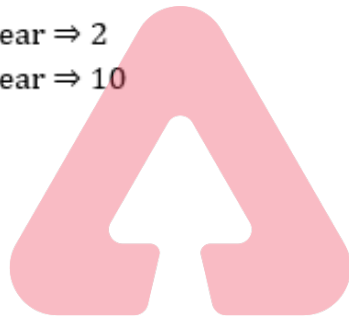
$$10 = \frac{5 \times r \times 5}{100}$$

$$r\% = 40\%$$

$$= \frac{40}{100} = \frac{2}{5}$$

$$P : r = 5 : \frac{2}{5}$$

$$= 25 : 2$$



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S5. Ans.(c)

Sol.

S.I for 2 years

$$= \frac{15600 \times 10 \times 2}{100}$$

$$= 3120 \text{ Rs.}$$

Principal after 2 years

$$= 15600 + 3120$$

$$= 18720 \text{ Rs.}$$

S.I for next 2 years

$$= \frac{18720 \times 10 \times 2}{100}$$

$$= 3744$$

Interest at the end of 3rd and 4th years = 3744 Rs.

S6. Ans.(d)

Sol.

Case I

$$P = \frac{P \times 5 \times r}{100}$$

$$r = 20\%$$

Case II

$$2P = \frac{P \times 12 \times r}{100}$$

$$\frac{100}{6} = r$$

$$r = \frac{50}{3} = 16\frac{2}{3}\%$$

S7. Ans.(b)

Sol. $15 \times 20 \times 8 = 20 \times 12 \times x$

$x = 10$ hours

S8. Ans.(b)

Sol. $9 \times 20 = x \times 15$

$x = 12$ taps

S9. Ans.(d)

Sol.

Efficiency \rightarrow Raj + Ram = $\frac{1}{10}$

Efficiency \rightarrow Raj = $\frac{1}{12}$

Efficiency Ram = $\frac{1}{10} - \frac{1}{12}$

$$= \frac{6 - 5}{60}$$

$$= \frac{1}{60}$$

Ram will take $\Rightarrow 60$ days

S10. Ans.(c)

Sol.

Let C.P = 100

S.P = 90

$$90 + \frac{1}{2}x = x$$

$$90 = \frac{1}{2}x$$

$$x = 180$$

C.P \Rightarrow 100, M.P = 180

$$\frac{C.P}{M.P} \Rightarrow \frac{100}{180} = \frac{5}{9}$$

C.P is $\frac{5}{9}$ of marked price.



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S11. Ans. (a);

Sol.

Speed against the current = $\frac{3}{4} \times 12 = 9$ km/hr.

Speed of current = $12 - 9 = 3$ km/hr.

Speed with the current = $12 + 3 = 15$ km/hr

Req. time = $\frac{45}{15} + \frac{45}{9} = 8$ hr

S12. Ans. (a);

Sol.

From question, $\frac{35x+5 \times 32}{x+5} = 34$

$x = 10$

S13. Ans. (d);

Sol.

from Question -

$\frac{12.4x + 26}{x + 4} = 12.2$

$x = 114$

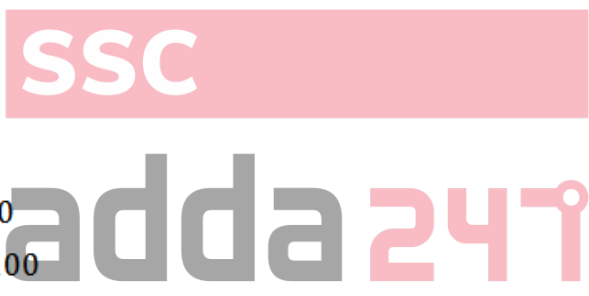
S14. Ans. (c);

Sol.

$\frac{2}{5}A + 40 = \frac{2}{7}B + 20 = \frac{9}{17}C + 10 = x$

$\therefore \frac{5}{2}(x - 40) + \frac{7}{2}(x - 20) + \frac{17}{9}(x - 10) = 600$
 $x = 100$

So, A's share = $\frac{5}{2}(100 - 40) = 150$



S15. Ans. (a);

Sol.

$\frac{(3^5)^{0.13} \times (3^5)^{0.07}}{(7)^{0.25} \times (7^2)^{0.075} \times (7^3)^{0.2}} = \frac{3^{(0.65+0.35)}}{7^{(0.25+0.150+0.6)}} = \frac{3}{7}$

S16. Ans.(d)

Sol.

From question-

$5x + 3x + 5y + 7y = 1200$

$2x + 3y = 300$ (i)

and $\frac{5x+5y}{3x+7y} = \frac{7}{5}$

$x = 6y$ (ii)

From eqn.(i)

$x = 120$

Original no. of students = $8x = 960$

S17. Ans. (a);

Sol.

Ratio of total amount from 1st& 2nd class passengers

$$= 3 \times 1 : 1 \times 50 = 3 : 50$$

So, amount collected from 2nd class passengers

$$= \left(\frac{50}{53} \times 1325\right) = 1250$$

S18. Ans. (c)

Sol.

Ratio of amount to = 5 sons : 4 daughter : 2 Nephews.

$$\Rightarrow 25x : 16x : 2x = 8600$$

$$x = 200,$$

$$\text{Req. money to each daughter} = 4 \times 200 = 800$$

S19. Ans. (a);

Sol. 120% of 194.40

$$x = \frac{194.40}{120} \times 100 = 162$$

So,

$$\begin{array}{ccc} 192 & & 150 \\ & \searrow & / \\ & 162 & \\ & / & \searrow \\ 12 & & 30 \\ \Rightarrow \frac{12}{30} = \frac{4}{10} = \frac{2}{5} \end{array}$$



S20. Ans. (a);

Sol. 2% of x = 15

$$100\% = 750$$

S21. Ans.(a)

Sol.

Using Alligation

5%	8%	
6%		
2	:	1

S22. Ans.(c)

Sol.

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$$\text{I}^{\text{st}} \text{ Container} \rightarrow 5 : 3$$

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S24. Ans.(d)

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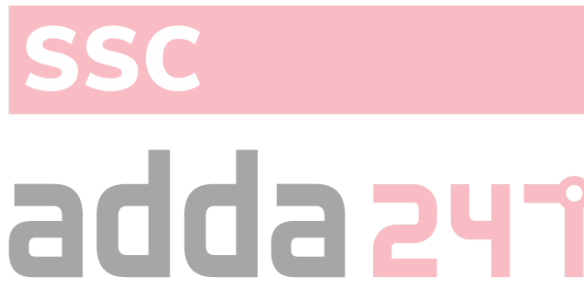
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S25. Ans.(c)

Sol.

$$\begin{aligned} \text{S.I for 2 years} \\ &= \frac{15600 \times 10 \times 2}{100} \end{aligned}$$

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S27. Ans.(b)

Sol.

$$15 \times 20 \times 8 = 20 \times 12 \times x$$

$$x = 10 \text{ hours}$$

S28. Ans.(b)

Sol.

$$9 \times 20 = x \times 15$$

$$x = 12 \text{ taps}$$

S29. Ans.(d)

Sol.

$$\text{Efficiency} \rightarrow \text{Raj} + \text{Ram} = \frac{1}{10}$$

$$\text{Efficiency} \rightarrow \text{Raj} = \frac{1}{12}$$

$$\text{Efficiency Ram} = \frac{1}{10} - \frac{1}{12}$$

$$= \frac{6 - 5}{60}$$

$$= \frac{1}{60}$$

Ram will take \Rightarrow 60 days

S30. Ans.(c)

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$$\text{Let C.P} = 100$$

$$\text{S.P} = 90$$

$$90 + \frac{1}{2}x = x$$

$$90 = \frac{1}{2}x$$

$$x = 180$$

$$\text{C.P} \Rightarrow 100, \text{MP} = 180$$

$$\frac{\text{C.P}}{\text{M.P}} \Rightarrow \frac{100}{180} = \frac{5}{9}$$

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