

Quant Mega Quiz for SSC CHSL (Solutions)

S1. Ans.(d)

Sol.

Interest Rate = 10%

Let P → 100

Rate ⇒ 10

Actual Principal = 100 - 10 = 90

Rate = $\frac{10}{90} \times 100 = 11\frac{1}{9}\%$

S2. Ans.(c)

Sol.

$$\frac{n_1 - 1}{t_1} = \frac{n_2 - 1}{t_2}$$

$$\frac{1}{7} = \frac{3}{t_2}$$

$t_2 = 21$ years

S3. Ans.(b)

Sol.

Let Principal be x

$$\frac{3}{4}x = \frac{x \times 25 \times r}{2 \times 100}$$

$r = 6\%$

S4. Ans.(a)

Sol.

Time = 6 years 8 months

$$= 6\frac{8}{12} = \frac{20}{3} \text{ years}$$

$$720 = \frac{P \times 20 \times 12}{3 \times 100}$$

$$P = 36 \times 25$$

= 900 Rs.

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S5. Ans.(b)

Sol.

Total % discount for $9/4$ years

$$= \frac{9}{4} \times \frac{8}{3} \%$$

$$= 6\%$$

$$78 = P \times 6/100$$

$$P = \text{Rs. } 1300$$

S6. Ans.(c)

Sol.

$t = 1$ months = $1/12$ years

S.I. = 1 paisa

= $1/100$ Rs

$$\frac{1}{100} = \frac{1 \times 1 \times R}{12 \times 100}$$

$$R = 12\%$$

S7. Ans.(a)

Sol. ATQ,

$$\frac{400 \times 3 \times r}{100} + \frac{500 \times 4 \times r}{100} = 160$$

$$r(12 + 20) = 160$$

$$32r = 160$$

$$r = 5\%$$

S8. Ans.(b)

Sol. ATQ,

$$840 = \frac{P \times 40}{100}$$

$$P = \text{Rs. } 2100$$

$$840 = \frac{2100 \times R \times 5}{100}$$

$$R = 8\%$$

S9. Ans.(d)

Sol.

$$\text{S.I} = 2P - P = P$$

$$P = \frac{P \times 8 \times r}{100}$$

$$r = \frac{100}{8} = \frac{25}{2}$$

$$= 12\frac{1}{2}\%$$

S10. Ans.(c)

Sol.

$$P : SI = 10 : 3$$

$$\text{Let, } P = 10x$$

$$S.I. = 3x$$

$$3x = \frac{10x \times 6 \times t}{100}$$

$$t = 5 \text{ years}$$

S11. Ans.(b)

Sol.

$$A : B = 3 : 4$$

$$B : C = 3.50 : 3$$

$$A : B : C = 10.5 : 14 : 12$$

$$36.5r \rightarrow 730$$

$$1r \rightarrow 20 \text{ Rs}$$

$$\text{Difference b/w ratio of B \& C} = 14 - 12 = 2$$

$$2r \rightarrow 40 \text{ Rs}$$

S12. Ans.(b)

Sol. Compound Ratio

$$= \frac{yz}{x} \times \frac{zx}{y} \times \frac{xy}{z}$$
$$= xyz : 1$$

S13. Ans.(b)

Sol.

$$A : B = 5 : 4$$

$$B : C = 9 : 10$$

$$A : B : C = 45 : 36 : 40$$

$$121r \rightarrow 2420$$

$$1r \rightarrow 20$$

$$\text{C gets} \rightarrow 20 \times 40$$

$$= 800 \text{ Rs}$$

S14. Ans.(b)

Sol.

$$\text{Original Assam : Darjeeling}$$

$$S : 2$$

$$\downarrow \quad \downarrow$$

$$35\text{kg} \quad 14\text{kg}$$

$$\text{New} = 2 : 1$$

$$2r \rightarrow 35 \text{ kg}$$

$$1 \rightarrow 17.5 \text{ kg}$$

$$\text{Increased value} = 17.5 - 14$$

$$= 3.5 \text{ kg}$$

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S15. Ans.(d)

Sol.

Fail : Passed
2 : 9
↓ ↓
24 : 108

New Passed : Fail
112 : 20
↓ ↓
28 : 5

S16. Ans.(c)

Sol.

Ratio of officer & soldiers
= 3 : 31

Officers & soldiers are → 3x, 31x

$$\frac{3x - 6}{31x - 22} = \frac{1}{13}$$
$$x = 7$$

No. of officers = 21

S17. Ans.(c)

Sol.

Milk : Water
4×28×3 : 1×28×3
3×35×4 : 1×35×4
5×20×5 : 2×20×5
1256 : 424
157 : 53

S18. Ans.(b)

Sol.

Boys : Girls
Old 5 : 3
New 6 : 5
Boys : Girls
Old 30 : 18
New 30 : 25

48r → 48 student

1r → 1 student

(25 - 18) = 7 ratio

7 ratio → 7 student

No. of Girls added = 7

S19. Ans.(d)

Sol.

Syrup : Water

2 : 3

3 : 4

7 : 5

Let 3rd bottle has x liters mixture

ATQ,

$$\frac{10 \times \frac{2}{5} + 21 \times \frac{3}{7} + x \times \frac{7}{12}}{10 \times \frac{3}{5} + 21 \times \frac{4}{7} + x \times \frac{5}{12}} = 1$$

$$10 \times \frac{3}{5} + 21 \times \frac{4}{7} + x \times \frac{5}{12}$$

$$x = 30c$$

S20. Ans.(c)

Sol.

Total $\rightarrow 4 : 3 \Rightarrow 7$

Half $\rightarrow 2 : 5 \Rightarrow 5$

20 : 15 $\Rightarrow 35 \times 2$

14 : 21 $\Rightarrow 35$

40 : 30 $\Rightarrow 70$

14 : 21 $\Rightarrow 35$

Required ratio $\Rightarrow 26 : 9$

S21. Ans.(d)

Sol.

A : B

$$36000 \times 12 : 45000 \times 4 + 25000 \times 5 + (55000 + 2500) \times 3$$

$$432000 : 545000$$

$$432 : 545$$

$$977r \rightarrow 117240$$

$$r \rightarrow 120$$

$$(545 - 432) r \Rightarrow 113r$$

$$113r \Rightarrow 120 \times 113$$

$$\Rightarrow 13,560 \text{ Rs.}$$

B will get more share by 13560 Rs.

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S22. Ans.(b)

Sol.

$$\begin{array}{l} A : B : C \\ 24000 : 32000 : 18000 \\ 12 : 16 : 9 \end{array}$$

Let the total profit
= $100x$

$$\text{Extra share of A} = 100x \times \frac{15}{100} = 15x$$

$$\text{Extra share of B} = 100x \times \frac{12}{100} = 12x$$

$$\text{Remaining Profit} = 100x - 15x - 12x = 73x$$

$$\text{Share of C} = \frac{73x}{37} \times 9$$

$$= \frac{657x}{37} = 65700$$

$$x = 3700$$

$$\text{Total profit} = 370000 \text{ Rs.}$$

S23. Ans.(c)

Sol.

$$\begin{array}{l} A : B : C \\ 12 \times 2 \times 4 : 16 \times 4 \times 6 : 6 \times 9 \times 2 \\ 96 : 384 : 108 \\ 8 : 32 : 9 \end{array}$$

$$32r \rightarrow 1152$$

$$r \rightarrow 36$$

$$\text{Total share} = 49 \times 36 = 1764$$

S24. Ans.(a)

Sol.

$$\begin{array}{l} A : B : C \\ 500 \times 12 : 400 \times 10 : 800 \times 6 \\ 15 : 10 : 12 \end{array}$$

$$37 \text{ unit} \rightarrow 444$$

$$1 \text{ unit} \rightarrow \text{Rs. } 12$$

$$A \rightarrow 12 \times 15 \Rightarrow 180$$

$$B \rightarrow 10 \times 12 \Rightarrow 120$$

$$C \rightarrow 12 \times 12 \Rightarrow 144$$

S25. Ans.(d)**Sol.**

$$\begin{aligned} \text{B's profit share} &= 12 \times 100 \\ &= \text{Rs. } 1200 \end{aligned}$$

$$\begin{aligned} \text{Interest of A} &= \frac{10000 \times 5 \times 1}{100} \\ &= \text{Rs. } 500 \end{aligned}$$

$$\begin{aligned} \text{Interest of B} &= \frac{4000 \times 5 \times 1}{100} \\ &= \text{Rs. } 200 \end{aligned}$$

$$\begin{aligned} \text{Remaining profit} &= 4000 - 1900 \\ &= 2100 \text{ Rs.} \end{aligned}$$

Remaining Profit will be divided in the Ratio of their Investment

$$\begin{aligned} \text{A's share} &= \frac{2100 \times 5}{7} \\ &= \text{Rs. } 1500 \end{aligned}$$

$$\begin{aligned} \text{B's share} &= \frac{2100 \times 2}{7} \\ &= 600 \text{ Rs.} \end{aligned}$$

$$\begin{aligned} \text{Total profit of A} &= 500 + 1500 \\ &= \text{Rs. } 2000 \end{aligned}$$

$$\begin{aligned} \text{Total profit of B} &= 1200 + 600 + 200 \\ &= \text{Rs. } 2000 \end{aligned}$$

S26. Ans.(a)**Sol.**

$$\begin{array}{ccccccc} \text{A} & : & \text{B} & : & \text{C} & : & \\ 4000 \times 12 & : & 6000 \times 4 + 8000 \times 8 & : & 8000 \times 9 + 3 \times 6000 & : & \\ 24 & : & 44 & : & 45 & : & \end{array}$$

$$113 \text{ unit} \rightarrow 16950 \text{ Rs.}$$

$$1 \text{ unit} \rightarrow 150 \text{ Rs.}$$

$$A = 24 \times 150 = 3600 \text{ Rs.}$$

$$B = 44 \times 150 = 6600 \text{ Rs.}$$

$$C = 150 \times 45 = 6750 \text{ Rs.}$$

S27. Ans.(b)**Sol.**

$$\begin{array}{ccc} \text{A} & : & \text{B} & : & \text{C} \\ 25 & : & 16 & : & 24 \end{array}$$

$$A \rightarrow 25x, B \rightarrow 16x, C \rightarrow 24x$$

$$\begin{aligned} \text{Total Capital of A} &= 25x \times 3 + (37.5)x \times 9 \\ &= 412.5x \end{aligned}$$

$$\begin{aligned} \text{Total Capital of B} &= 16x \times 12 \\ &= 192x \end{aligned}$$

$$\begin{aligned} \text{Total Capital of C} &= 24 \times 12x \\ &= 288x \end{aligned}$$

$$(412.5x + 192x + 288x)r \Rightarrow 35700$$

$$x = \text{Rs. } 40$$

$$\begin{aligned} \text{A's share} &= 412.5 \times 40 \\ &= \text{Rs. } 16500 \end{aligned}$$

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S28. Ans.(c)**Sol.**

Total profit = Rs 4000

20% of B = Rs 4000

B's investment = Rs 20,000

Let total capital be Rs 100

A → 30% of 100 = Rs 30

B → Rs 40

C → 30

A : B : C

30 : 40 : 30 → Capital

40r → 20000

r → 500

C's capital ⇒ 500 × 30

= Rs 15000

S29. Ans.(a)**Sol.**

A : B

(7 : 9) × 3

21 : 27

Total capital invested by A in 9 months

= 21x × 3 + 7x × 6 = 105x

Total Capital of B invested in 9 months

= 27x × 4 + 18x × 5

= 198x

Capital → A : B

105x : 198x

Profit ⇒ 303x ⇒ 10201

$$x = \frac{10201}{303}$$

$$\text{Share of A} = 105 \times \frac{10201}{303}$$

= Rs. 3535

$$\text{Share of B} = 198 \times \frac{10201}{303}$$

= Rs. 6666

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

$$\text{Interest of A} = \frac{42000 \times 7 \times 1}{100} = \text{Rs } 2940$$

Similarly,

Interest B = Rs 3360

Interest C = 2240 Rs

Total interest = Rs 8540
Remaining profit = 32940 – 8540
= Rs 24400
A : B : C
21 : 24 : 16 → Capital
61 units ⇒ 24400 Rs
1 unit → 400 Rs
Share of A in remaining profit
= 21 × 400
= 8400 Rs
Total profit A = 2940 + 8400
= Rs 11340



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