

**Quant Mega Quiz for SSC CGL Tier - 2 (Solutions)**

**S1. Ans.(c)**

**Sol.**

Let C.P = 100

S.P at 8% gain = 108

S.P at 8% loss = 92

$(108 - 92)r = 28$

$16r \rightarrow 28$

$1r \rightarrow \frac{28}{16} \Rightarrow \frac{7}{4}$

$100r \rightarrow \frac{7}{4} \times 100$

= 175 Rs.

**S2. Ans.(c)**

**Sol.**

C.P of 500 m =  $500 \times 50$  paise

= 250 Rs.

C.P of 250 m = 125

S.P of 250 m at 5% profit =  $125 \times \frac{105}{100} = 131.25$

S.P at 10% net profit =  $250 \times \frac{110}{100} = 275$

Remaining S.P =  $275 - 131.25 = 143.75$

C.P of Remaining 50% = 125

S.P of Remaining 50% = 143.75

Profit% on remaining =  $\frac{18.75}{125} \times 100 = 15\%$

**S3. Ans.(b)**

**Sol.**

Let C.P of Book  $\rightarrow 100$

C.P of Book for seller

=  $100 \times \frac{70}{100}$

= 70 Rs.

S.P of Book =  $100 \times \frac{90}{100}$

= 90 Rs.

Profit % =  $\frac{20}{70} \times 100$

=  $\frac{200}{7} = 28\frac{4}{7}\%$

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**S4. Ans.(a)**

**Sol.**

Let C.P  $\rightarrow$  100

M.P  $\rightarrow$  112

$$S.P = 112 \times \frac{95}{100}$$

$$= 106.4 \text{ Rs.}$$

$$106.4r \rightarrow 532$$

$$1r \rightarrow 5$$

$$100 \rightarrow 500 \text{ Rs.}$$

**S5. Ans.(d)**

**Sol.**

Let C.P  $\rightarrow$  100

M.P = 140

$$S.P = 140 \times \frac{75}{100}$$

$$= 105$$

$$105r \rightarrow 2100$$

$$100r \rightarrow \frac{2100}{105} \times 100$$

$$= 2000 \text{ Rs.}$$

**S6. Ans.(c)**

**Sol.** Let C.P = 100

S.P = 80

$$\frac{C.P}{S.P} = \frac{100}{80}$$

$$C.P = 5/4 \text{ S.P}$$

**S7. Ans.(b)**

**Sol.**

-30% loss + 40% profit

$$70\% \rightarrow 140$$

$$1\% \rightarrow 2 \text{ Rs.}$$

$$100\% \rightarrow 200 \text{ Rs.}$$

**S8. Ans.(b)**

**Sol.**

$$\text{Price 510 eggs} = 510 \times \frac{20}{12}$$

$$= 850 \text{ Rs.}$$

$$S.P = \frac{850 \times 120}{100}$$

$$= 1020$$

$$\text{S.P of } (510 - 30) \text{ eggs} = 1020$$

$$\text{S.P of 480 eggs} = 1020$$

$$\text{S.P per dozen} = \frac{1020}{40}$$

$$= 25.5 \text{ Rs.}$$

S9. Ans.(a)

Sol.

C.P of A → 100

A	B	C
100	88	99

A sells to B at 99

$$\text{Loss \%} = \frac{1}{100} \times 100$$

$$= 1\%$$

S10. Ans.(b)

Sol.

$$\text{Overall profit} = \frac{30}{900} \times 100$$

$$= \frac{10}{3}\%$$

15%	-10
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$\frac{10}{3}$	:	$\frac{35}{3}$
40	:	35
3	:	3
8	:	7

$$\text{C.P of one type-I cake} = \frac{8}{15} \times \frac{900}{3} = \frac{480}{3} = 160$$

$$\text{C.P of one type-II cake} = \frac{7}{15} \times \frac{900}{6} = 70 \text{ Rs.}$$

S11. Ans.(d)

Sol.

$$I = \frac{12000 \times 8 \times 1}{100} = 960$$

$$\text{Desired gain on Rs. 20000} = 20000 \times \frac{10}{100} = 2000$$

$$\text{S.I. on Rs. 8000} = 2000 - 960 = 1040$$

$$\text{Rate} = \frac{\text{S.I.} \times 100}{P \times T} = \frac{1040 \times 100}{8000} = 13\%$$

S12. Ans.(a)

Sol.

$$A = P \left(1 + \frac{R}{100}\right)^T$$

$$3840 = P \left(1 + \frac{R}{100}\right)^4 \dots\dots\dots (i)$$


$$3936 = P \left(1 + \frac{R}{100}\right)^5 \dots\dots\dots (ii)$$

$$\frac{R}{100} = \frac{3936}{3840} - 1$$

$$R = \frac{96}{3840} \times 100 = 2.5\%$$

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**S13. Ans.(c)**

**Sol.**

$$A = P \left(1 + \frac{R}{100}\right)^T$$
$$3 = 1 \left(1 + \frac{R}{100}\right)^3$$
$$9 = 1 \left(1 + \frac{R}{100}\right)^6$$

**S14. Ans.(c)**

**Sol.**

$$C.I. = P \left[ \left(1 + \frac{R}{100}\right)^T - 1 \right]$$
$$= 5000 \left[ \left(1 + \frac{5}{100}\right)^4 - 1 \right] = 1077.5$$
$$S.I. = \frac{5000 \times 10 \times 2}{100} = 1000$$
$$Diff. = 77.5$$

**S15. Ans.(b)**

**Sol.**

$$\frac{500 \times 4 \times r}{100} + \frac{600 \times 3 \times r}{100} = 190$$
$$38r = 190$$
$$r = 5\%$$

**S16. Ans.(c)**

**Sol.**

$$\frac{800 + 800 \times 12 \times T}{100} = \frac{910 \times 10 \times T}{100}$$
$$800 + 96T = 910 + 91T$$
$$5T = 910 - 800$$
$$5T = 110$$
$$T = 22 \text{ years}$$

**S17. Ans.(c)**

**Sol.**

$$\frac{1P}{16} = \frac{P \times r \times r}{100}$$
$$r^2 = \frac{100}{16}$$
$$r = \frac{10}{4} = \frac{5}{2}\% = 2\frac{1}{2}\%$$

**S18. Ans.(c)**

**Sol.**

$$\frac{P \times 6 \times 3}{100} + \frac{P \times 9 \times 5}{100} + \frac{P \times 13 \times 3}{100}$$
$$= 8160$$
$$18P + 45P + 39P = 816000$$
$$102P = 816000$$
$$P = 8000$$

**S19. Ans.(b)**

**Sol.**

$$\frac{n_1 - 1}{T_1} = \frac{n_2 - 1}{T_2}$$

$$\frac{2}{20} = \frac{1}{t_1}$$

$$t_1 = 10 \text{ years}$$

**S20. Ans.(b)**

**Sol.**

Let two parts be x : y

$$\frac{x \times 3 \times 12}{100} = \frac{y \times 16 \times 9}{200}$$

$$x : y = 1 : 2$$

**S21. Ans.(d)**

**Sol.**

Interest Rate = 10%

Let P → 100

Rate ⇒ 10

Actual Principal = 100 - 10 = 90

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

**S22. Ans.(c)**

**Sol.**

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

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

$$t_2 = 21 \text{ years}$$

**S23. Ans.(b)**

**Sol.**

Let Principal be x

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

$$r = 6\%$$

**S24. Ans.(a)**

**Sol.**

Time = 6 years 8 months

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

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

$$P = 36 \times 25$$

$$= 900 \text{ Rs.}$$

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**S25. Ans.(b)**

**Sol.**

Total % discount for  $9\frac{3}{4}$  years

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

$$= 6\%$$

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

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

**S26. Ans.(c)**

**Sol.**

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

S.I. = 1 paisa

=  $1/100$  Rs

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

$$R = 12\%$$

**S27. Ans.(a)**

**Sol.**

ATQ,

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

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

$$32r = 160$$

$$r = 5\%$$

**S28. Ans.(b)**

**Sol.**

ATQ,

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

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

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

$$R = 8\%$$

**S29. Ans.(d)**

**Sol.**

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

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

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

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

S30. Ans.(c)

Sol.

$$P : SI = 10 : 3$$

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

$$S.I. = 3x$$

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

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

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