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Simple Interest Questions for CDS, CLAT and SSC Exams.

Simple Interest Quiz 5

Directions: Kindly study the following Questions carefully and choose the right answer:

1. What would be the simple interest obtained on an amount of Rs 64,728 at the rate of 10 p.c.p.a after 7 years?

A. Rs 45309.6

B. Rs 39214.2

C. Rs 48077.5

D. Rs 40223.1

2. In how much time would the simple interest on a principal amount be 0.125 times the principal amount at 10% per annum?

A. 1.25 years

B. 3.5 years

C. 2 years

D. 1 year

3. A sum of money at a certain rate per annum of simple interest doubles in the 5 years and at a different rate become three times in 12 years. The lower rate of interest per annum is:

A. 15%

B. 20%

C. $15\frac{3}{4}\%$

D. $16\frac{2}{3}\%$

4. In how many years will a sum of money double itself at $25/4\%$ simple interest per annum?

A. 24 years

B. 20 years

C. 16 years

D. 12 years

5. If a sum of money amounts to Rs. 12900 and Rs. 14250 at the end of 4th year and 5th year respectively a certain rate of simple interest, then the rate of interest is

A. 10%

B. 12%

C. 18%

D. 20%

6. Simple interest on a sum after 6 years is $9/25$ of the sum. The rate of interest per annum is

A. 4%

B. 5%

C. 6%

D. 8%

7. Two equal sums were lent out at 7% and 5% S.I. respectively. The interest earned on the two loans add up to Rs. 960 for 4 years. The total sum lent out in

A. Rs. 3500

B. Rs. 2500

C. Rs. 2000

D. Rs. 3000

8. The amount Rs. 2100 became Rs. 2352 in 2 years at simple interest. If the interest rate is decreased by 1%, what is the new interest?

A. Rs. 210

B. Rs. 220

C. Rs. 242

D. Rs. 252

9. At a certain rate of simple interest, a certain sum of money becomes double of itself in 10 years. It will become treble of itself in

A. 15 years

B. 18 years

C. 20 years

D. 30 years

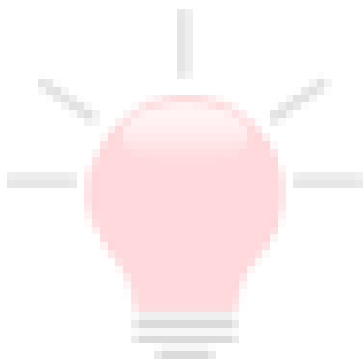
10. A borrows Rs. 800 at the rate of 12% per annum simple interest and B borrows Rs. 910 at the rate of 10% per annum, simple interest. In how many years will their amounts of debt be equal?

A. 18 years

B. 20 years

C. 22 years

D. 24 years



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Correct Answers:

1	2	3	4	5	6	7	8	9	10
A	A	D	C	C	C	C	A	C	C

Explanations:

1.

$$SI = \frac{P \times R \times T}{100}$$

$$= \frac{64728 \times 10 \times 7}{100} = \text{Rs. } 45309.6$$

Hence, option A is correct.

2. Let the principal be Rs. P. Therefore, $SI = 0.125 P$

Rate of interest = 10% p.a.

$$SI = \frac{P \times R \times T}{100}$$

$$\Rightarrow 0.125 P = \frac{P \times 10 \times T}{100}$$

$$\Rightarrow \frac{125}{1000} = \frac{T}{10} \Rightarrow T = \frac{125}{100} = 1.25 \text{ years}$$

Hence, option A is correct.

3. The sum gets doubled in 5 years and trebled in 12 years, Clearly the rate of interest for 12 years will be lower.

1st Method:

To solve this question, we can apply a short trick approach

$$\text{Rate of interest} = \frac{100(x-1)}{t}\%$$

Where x is the no. of times the sum becomes of itself. Here the sum is getting 3 times. Therefore, $x = 3$

Where t is the time taken by sum to become x times of itself. Here, $t = 12$ years

By the short trick approach, we get

$$= \frac{100(3-1)}{12} = \frac{200}{12} = \frac{50}{3} = 16\frac{2}{3}\%$$

IInd Method: Let the principal be P and in the 2nd scenario, SI = 2P

$$\text{Rate} = \frac{\text{SI} \times 100}{\text{Principal} \times \text{Time}}$$

$$= \frac{2P \times 100}{P \times 12} = \frac{50}{3} = 16\frac{2}{3}\%$$

Hence, option D is correct.

4. Ist Method:

To solve this question, we can apply a short trick approach

$$\text{Time} = \frac{100(x-1)}{r}$$

Where x is the no. of times the sum becomes of itself. Here the sum is getting 2 times. Therefore, x = 2

Where r is the rate of interest = $\frac{25}{4}\%$

By the short trick approach, we get

$$= \frac{100(2-1)}{25/4} = \frac{100 \times 4}{25} = 16 \text{ years}$$

IInd Method:

Let the principal be x, Amount = 2x, SI = 2x - x = x. then,

$$\text{Time} = \frac{\text{SI} \times 100}{\text{Principal} \times \text{Rate}}$$

$$= \frac{x \times 100}{x \times (25/4)} = 4 \times 4 = 16 \text{ years}$$

Hence, option C is correct.

5. To solve this question, we can apply a short trick approach

$$\text{Rate of interest p.a.} = \frac{100(\text{Amount}_2 - \text{Amount}_1)}{(\text{Amount}_1 \text{Time}_2 - \text{Amount}_2 \text{Time}_1)}$$

By the short trick approach, we get

$$\begin{aligned} r\% &= \frac{100 (14250 - 12900)}{(12900 \times 5 - 14250 \times 4)} = \frac{100 \times 1350}{64500 - 57000} \\ &= \frac{1350 \times 100}{7500} = 18\% \end{aligned}$$

Traditional Method:

S.I. for 1 year = S.I. for 5 years – S.I. for 4 years = 14250 – 12900 = Rs. 1350

therefore, S.I. for 4 years = 1350 × 4 = Rs. 5400

∴ Principal = Amount of 4 years – S.I. of 4 years = 12900 – 5400 = Rs. 7500

$$\Rightarrow \text{Rate of interest} = \frac{\text{S.I.} \times 100}{P \times T} = \frac{5400 \times 100}{7500 \times 4} = 18\% \text{ p.a.}$$

Hence, option C is correct.

6.

$$\frac{\text{Simple Interest}}{\text{Principal}} = \frac{9}{25}$$

$$\text{Rate} = \frac{\text{SI} \times 100}{\text{Principal} \times \text{Time}}$$

$$= \frac{9}{25} \times \frac{100}{6} = 6\%$$

Hence, option C is correct.

7. If each amount lent be x, then

According to question,

$$\frac{x \times 7 \times 4}{100} + \frac{x \times 5 \times 4}{100} = 960$$

$$\Rightarrow \frac{48x}{100} = 960$$

$$\Rightarrow x = \frac{960 \times 100}{48} = \text{Rs. } 2000$$

Hence, option C is correct.

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8. $SI = (\text{Amount} - \text{Principal}) = 2352 - 2100 = \text{Rs. } 252$

$$\text{Rate} = \frac{SI \times 100}{\text{Principal} \times \text{Time}}$$

$$= \frac{252 \times 100}{2100 \times 2} = 6\% \text{ p.a.}$$

$$\text{New rate} = 6 - 1 = 5\%$$

$$\therefore SI = \frac{252 \times 5}{6} = \text{Rs. } 210$$

Hence, option A is correct.

9. If principal be x , Amount = $2x$,
 $SI = (\text{Amount} - \text{Principal}) = (2x - x) = x$

$$\text{Rate} = \frac{SI \times 100}{\text{Principal} \times \text{Time}}$$

$$= \frac{x \times 100}{x \times 10} = 10\%$$

Now, Principal = x , Amount = $3x$
 $SI = (\text{Amount} - \text{Principal}) = (3x - x) = 2x$, then

$$\text{Time} = \frac{SI \times 100}{\text{Principal} \times \text{Rate}}$$

$$= \frac{2x \times 100}{x \times 10} = 20 \text{ years}$$

Hence, option C is correct.

10. Let the period of time be T years

$$\text{Amount} = (P + SI) = P + \frac{P \times R \times T}{100}$$

According to question,

$$\therefore 800 + \frac{800 \times 12 \times T}{100} = 910 + \frac{910 \times 10 \times T}{100}$$

$$\Rightarrow 800 + 96T = 910 + 91T$$

$$\Rightarrow 5T = 110 \Rightarrow T = 22 \text{ years}$$

Hence, option C is correct.



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