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Compound Interest Questions Quiz for Bank Clerk Pre Exams.

Compound Interest Quiz 6

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

1. The SI on a certain sum of money for 3 yr at 8% pa is half the CI on Rs. 8000 for 2 yr at 10% pa. Find the sum placed on simple interest?

- A. Rs. 3500 B. Rs. 3800 C. Rs. 4000 D. Rs. 3600 E. None of these

2. What is the CI accrued on an amount of Rs. 12000 at the rate of 9% per annum at the end of 2 years?

- A. Rs. 2545 B. Rs. 2257.20 C. Rs. 2986 D. Rs. 2775.40 E. None of these

3. Sachin had Rs. 23,000. He invested some amount in scheme A at SI at 20% and the remaining amount in scheme B at CI at 10%. If Sahil got the same amount from both of them at the end of one year, how much (in Rs.) did he invest in scheme B ?

- A. 10000 B. 11000 C. 11500 D. 12000 E. 13000

4. The difference between simple interest and compound interest on a certain sum of money for 2 years at 5% per annum is Rs. 100. Find the sum.

- A. Rs. 42000 B. Rs. 45000 C. Rs. 41500 D. Rs. 40000 E. None of these

5. What will be the compound interest on a sum of Rs. 9000 at compound interest compounded annually at 8% per annum in two years ?

- A. Rs. 1498.76 B. Rs. 1497.6 C. Rs. 1597.6 D. Rs.1480.60 E. None of these

6. How much will a sum of Rs. 6,300 amount to in a span of 2 years, at 5 p.c.p.a. rate of compound interest (Rounded off to the nearest integer) ?

- A. Rs. 6,946 B. Rs. 6,876 C. Rs. 6,521 D. Rs. 6,790 E. Rs. 6,492

7. What would be the compound interest obtained on an amount of Rs. 7,790 at the rate of 10 p.c.p.a. after two years?

- A. Rs. 1532.60 B. Rs. 1495.90 C. Rs. 1653.50 D. Rs. 1635.90 E. None of these

8. What will be the compound interest accrued on an amount of Rs. 14000 at the rate 10% per annum in two years, if the interest is compounded half-yearly ?

- A. Rs. 2586.2075 B. Rs. 3017.0875 C. Rs. 2386.8075 D. Rs. 4186.075 E. Rs. 3217.0875

9. There is 90% increase in an amount in 9 years at simple interest. What will be the compound interest of Rs. 15000 after 4 years at the same rate?

- A. 4533 B. 6962 C. 5497 D. 6218 E. 4965

10. If the simple interest on a sum of money for 2 years at 6% per annum is Rs. 120. What is the compound interest on the same sum at the same rate and for the same time?

- A. Rs. 121 B. Rs. 120.5 C. Rs. 126.30 D. Rs. 122 E. None of these



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Correct Answers:

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

Explanations:

1. Applying the net% effect formula, we get

$$= 10 + 10 + \frac{10 \times 10}{100} = 21\%$$

Now, 21% of 8000 = 1680

$$\text{Sum of SI is half of CI} = \frac{1680}{2} = 840$$

$$\therefore \text{Sum} = \frac{840 \times 100}{3 \times 8} = \text{Rs. 3500}$$

Hence, option A is correct.

2. Method I :

P = Rs. 12000; R = 9%; n = 2 years

$$\text{CI} = P \left(1 + \frac{R}{100}\right)^n - P$$

$$\text{CI} = 12000 \left(1 + \frac{9}{100}\right)^2 - 12000$$

$$= 12000 \times \frac{109}{100} \times \frac{109}{100} - 12000$$

$$= 14257.20 - 12000 = \text{Rs. 2257.20}$$

Method II :

To solve this question, we can apply the net% effect formula

$$\text{Net\% effect} = \left(x + y + \frac{xy}{100}\right)\%$$

Here, x = y = 9% (because rate of interest is same for both the years)

By the net% effect, we get effective rate of interest

$$= \left(9 + 9 + \frac{9 \times 9}{100}\right)\% = 18.81\%$$

Therefore, 18.81% of 12000 = Rs. 2257.20

Hence, option B is correct.

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3. Let the amount invested in scheme B is Rs. x .
 \therefore Amount invested in scheme A be Rs. $(23000 - x)$.
According to the question,

$$(23000 - x) + \frac{(23000 - x) \times 20 \times 1}{100} = x + x \left(1 + \frac{10}{100}\right)^1 - x$$

$$\Rightarrow (23000 - x) \times \frac{6}{5} = \frac{11x}{10}$$

$$\Rightarrow 11x = 276000 - 12x$$

$$\Rightarrow 23x = 276000$$

$$\Rightarrow x = 12000$$

Hence, option D is correct.

4. Method I :

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

$$\text{Sum} = \frac{\text{Difference} \times 100^2}{r^2}$$

Given, Difference = Rs. 100, $r = 5\%$

By the short trick approach, we get

$$\text{Sum} = \frac{100 \times 100^2}{5^2} = \text{Rs. } 40000$$

Method II :

We can solve it by the net% formula,

Rate % of SI for 2 yr at 5% pa = $5 \times 2 = 10\%$

Rate % of CI for 2 yr at 5%,

$$5 + 5 + \frac{5 \times 5}{100} = 10.25\%$$

% rate difference of CI and SI = $10.25\% - 10\% = 0.25\%$

Let the sum be Rs. x , then

0.25% of $x = 100$

$$x = \frac{100 \times 100}{0.25} = \text{Rs. } 40000$$

Hence, option D is correct.

5. Given, P = Rs. 9000; R = 8%; n = 2 years

$$\begin{aligned}CI &= P \left(1 + \frac{R}{100}\right)^n - P \\&= 9000 \left(1 + \frac{8}{100}\right)^2 - 9000 \\&= 9000 \left(\frac{27}{25}\right)^2 - 9000 \\&= 9000 \left(\frac{729}{625} - 1\right) \\&= 9000 \times \frac{104}{625} = \text{Rs. } 1497.6\end{aligned}$$

Hence, option B is correct.

6. Given, P = Rs. 6300; R = 5%; n = 2 years

$$\begin{aligned}\text{Amount} &= P \left[1 + \frac{R}{100}\right]^n \\&= 6300 \left[1 + \frac{5}{100}\right]^2 \\&= 6300 \times \frac{21}{20} \times \frac{21}{20} = 6945.75 \approx \text{Rs. } 6946\end{aligned}$$

Hence, option A is correct.

7. Given, P = Rs. 7,790; R = 10%; n = 2 years

$$\begin{aligned}CI &= P \left[1 + \frac{R}{100}\right]^n - P \\&= 7790 \left[1 + \frac{10}{100}\right]^2 - 7790 \\&= 7790 \times \frac{11}{10} \times \frac{11}{10} - 7790 \\&= 9425.9 - 7790 = \text{Rs. } 1,635.90\end{aligned}$$

Hence, option D is correct.

8. P = Rs. 14000; R = 10%; n = 2 years

When interest is compounded half-yearly,

$$CI = P \left(1 + \frac{R}{2 \times 100}\right)^{2n} - P$$

$$= 14000 \left(1 + \frac{10}{2 \times 100}\right)^{2 \times 2} - 14000$$

$$= 14000 \left(\frac{21}{20}\right)^4 - 14000$$

$$= 17017.0875 - 14000 = \text{Rs. } 3017.0875$$

Hence, option B is correct.

9. Since increase in interest in 9 years = 60%

Therefore, increase in interest in 1 year = 10% (Rate of interest)

Now, P = 15000, T = 4 years & R = 10% p.a.

By the net% effect we would calculate the effective compound rate of interest for 4 years = 46.41% (Refer to sub-details)

Therefore, CI = 46.41% of 15000

$$CI = \frac{46.41 \times 15000}{100} = 6961.5 \approx 6962$$

Sub-details :

Calculation of effective compound rate of interest for 4 years will be as follows.

For the first two years, let's apply the net% effect.

Here, x = y = 10%

$$\text{Net\% effect} = x + y = \frac{xy}{100}$$

$$= 10 + 10 + \frac{10 \times 10}{100} = 21\%$$

Now let's take this 21% as x and 10% as y for the calculation of 3rd year.

$$= 21 + 10 + \frac{21 \times 10}{100} = 33.1\%$$

Now let's take this 33.1% as x and 10% as y for the calculation of 4th year.

$$= 33.1 + 10 + \frac{33.1 \times 10}{100} = 46.41\%$$

Hence, option B is correct.

10. Let the sum be Rs. P, then,

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

$$\Rightarrow 120 = \frac{P \times 6 \times 2}{100}$$

$$\Rightarrow P = \text{Rs. } 1000$$

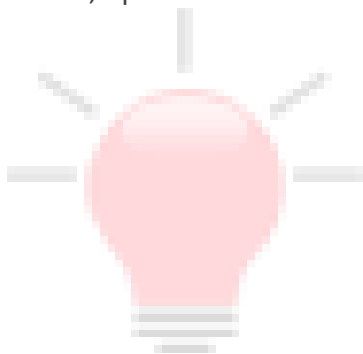
Thus, the sum is Rs. 1000

$$\text{So, CI} = 1000 \left(1 + \frac{6}{100}\right)^2 - 1000$$

$$= 1000 \times \frac{106}{100} \times \frac{106}{100} - 1000$$

$$= 1123.6 - 1000 = \text{Rs. } 123.6$$

Hence, option E is correct.



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