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Compound Interest Questions for SBI Clerk Mains, IBPS Clerk Mains, LIC AAO, SBI PO Pre, RRB Scale I Pre, RBI Assistant and IBPS PO Pre Exams.

Compound Interest Quiz 11

Directions: Read the following questions carefully and choose the right answer.

1. A man lent Rs. 4500 at 30% compound interest per annum for 3 years. What is the difference between the interest earned by the man in the 2nd year only and the interest earned by the man in the 3rd year only?

A. Rs. 545.5 B. Rs. 502 C. Rs. 526.5 D. Rs. 532 E. Rs. 529

2. A man saves Rs.20,000 at the beginning of each year and puts the money in a bank that pays 10% interest per year, interest being compounded annually. What would be the total savings of the man at the end of 6 years?

A. Rs. 196840 B. Rs. 169840 C. Rs. 189480 D. Rs. 199480 E. Rs. 168840

3. A bank lent Rs. X to a farmer at 50/3% p.a for 1 year73 days. How much Compound interest the farmer had to pay if the Simple interest for the first year is Rs. 3000?

The values of Compound Interest and Sum lent are given in the options; choose the option which correctly states the above question.

A. Rs. 6300, Rs. 36000 B. Rs. 3700, Rs. 18000 C. Rs. 5800, Rs. 18000 D. Rs. 5400, Rs. 18000
E. Rs. 3700, Rs. 12000

4. Shyam deposited Rs. 80000 in a bank which pays 10% compound interest for 2 years. Then after 2 years, he started a business with amount (sum + interest) along with Ram, with capital of Rs. 60,000. Shyam invested for 6 months and left. Ram invested for the whole year. What will be the ratio of their profits at the end of the year?

A. 150 : 221 B. 121 : 150 C. 121 : 130 D. 130 : 121 E. 155 : 101

5. A man takes a loan of Rs 216000 from a bank, to be returned in three years at a rate of 16.67% p.a. compound interest. The man returns Rs 84000 and Rs 58000 after first and second year. How much money will he have to return after third year to settle the loan?

A. Rs. 161000 B. Rs. 138000 C. Rs. 152000 D. Rs. 175000 E. None of these

6. **Aman gives Rs. 500000 to Bhuvan at 12% p.a. compound interest for two years. Bhuvan gives 80% of the money received from Aman to Chetan at 20% p.a. interest, compounded half yearly for two years. Two years later he receives his due amount from Chetan and gives Aman his due amount. What is the amount left with Bhuvan?**

A. Rs. 52980 B. Rs. 58440 C. Rs. 67880 D. Rs. 62780 E. Rs. 54670

7. **Rs. X is required to earn a monthly interest of Rs. 400 at 10% per annum at simple interest. Rs. Y is required to earn same interest as X when compounded semi-annually at 10% pa. Find the difference between X and Y.**

A. 1170.74 B. 1331.26 C. 928.34 D. 979.66 E. None of these

8. **Sumit borrows Rs. 15000 at 10% compound interest. At the end of each year he pay back Rs.3000. How much amount should he pay at the end of the third year to clear his debt?**

A. Rs. 14030 B. Rs. 14005 C. Rs. 12050 D. Rs 13035 E. Rs. 12035

9. **A invested some money at r% which grows to 676/441 times when invested for two years in a scheme where interest is compounded annually, how long will the same sum of money take to triple itself if invested at 'r/100'% rate of interest in a scheme where the interest is computed using the simple interest method.**

A. 120 years B. 840 years C. 105 years D. 720 yearas E. None of these

10. **Sunil lent some amount to Poonam for 3 years at the rate of 20% per annum simple interest and the equal amount to Sabnam for 2 years at the rate of 25% per annum compound interest compounded annually. At the end of time duration, the amount received from Poonam was Rs. 5625 more than that from Sabnam. How much money did he lend to each?**

A. Rs. 2,00,000 B. Rs. 1,00,000 C. Rs. 2,50,000 D. Rs. 1,50,000 E. None of these

Correct Answers:

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

Explanations:

1. Interest earned by the man on 2nd year

$$= 4500 \times \left[\left\{1 + \left(\frac{30}{100}\right)\right\}^{2} - 1\right] - \left(\frac{4500 \times 30 \times 1}{100}\right)$$

$$= 4500 \times \left(\frac{69}{100}\right) - 1350 = 3105 - 1350 = \text{Rs. } 1755$$

Interest earned by the man on 3rd year

$$= 4500 \times \left[\left\{1 + \left(\frac{30}{100}\right)\right\}^{3} - 1\right] - 4500 \times \left[\left\{1 + \left(\frac{30}{100}\right)\right\}^{2} - 1\right]$$

$$= 4500 \times \left(\frac{1197}{1000}\right) - 4500 \times \frac{69}{100} = 5386.5 - 3105 = \text{Rs.}2281.5$$

Therefore, required difference = 2281.5 – 1755 = Rs. 526.5

Hence, option C is correct.

2. The first Rs. 20000 would become $20000(1.1)^6$ after 6 years, the second will become $20000(1.1)^5$.the third will become $20000\ (1.1)^4$, the fourth will become $20000\ (1.1)^3$, the fifth will become $20000(1.1)^2$ and the sixth will become 20000 (1.1).

Total amount = $20000\ [(1.1) + (1.1)^2 + (1.1)^3 + (1.1)^4 + (1.1)^5 + (1.1)^6]$

$= (20000)\ (1.1)\ [\ 1 + (1.1) + (1.1)^2 + (1.1)^3 + (1.1)^4 + (1.1)^5]$

$$= 22000\ \frac{(1.1)^6 - 1}{1.1 - 1} = 22000\ (7.72) = \text{Rs. } 169840$$

Hence, option B is correct.

3.

$$\text{Rate} = 16\frac{2}{3}\% = \frac{1}{6}$$

$$\frac{P \times R \times T}{100} = \text{Rs. } 3000$$

P = Rs. 18000

Let us suppose Principal = 36

Interest for 1st year = 6 (which is the simple interest)

Interest for 2nd year = 6 + 1 = 7

$$\text{Interest for 73 days} = \frac{7 \times 73}{365} = 1.4$$

Total interest = 6 + 1.4 = 7.4

36 corresponds to 18000
1 will correspond to 500
7.4 will correspond to 500 × 7.4 = Rs. 3700
So, the Compound Interest for 1 year 73 days is Rs. 3700 and the Sum lent to the farmer is Rs. 18000.

Hence, option B is correct.

4. Capital of Shyam = Rs. 80,000
Rate of Interest = 10%

Time for which he deposited in bank = 2 years

$$\text{Amount} = 80000\left(1 + \frac{10}{100}\right)^2$$

$$\text{Amount} = \frac{80000 \times 121}{100} = \text{Rs. } 96800$$

Investment of Shyam in business = Rs. 96800
Investment of Ram in business = Rs. 60000

$$\text{Ratio of their profits} = \frac{96800 \times 6}{60000 \times 12}$$

Ratio = 968 : 1200 = 121 : 150
Hence, option B is correct.

5. Money took = Rs 216000

Amount after first year

$= 216000 \times \left(1 + \frac{16.67}{100}\right) = 216000 \times \frac{7}{6} = 252000$

Amount paid after first year = 84000, amount remaining = 252000 – 84000 = 168000

Amount to be paid after second year

$= \frac{7}{6} \times 168000 = 196000$

Amount paid after second year = 58000, amount remaining = 196000 – 58000 = 138000

Amount to paid after third year

$= \frac{7}{6} \times 138000 = \text{Rs } 161000$

Hence, option A is correct.

6. Money Bhuvan has to return to Aman after two years

$= 500000 \times \left(1 + \frac{12}{100}\right)^2 = \text{Rs. } 627200$

Money given by Bhuvan to Chetan = 80% (500000) = Rs. 400000, so amount left with him = Rs. 100000

Amount Chetan returns to Bhuvan after two years

$= 400000 \times \left(1 + \frac{10}{100}\right)^4 = \text{Rs. } 585640$

Total amount after receiving money from Chetan after two years = Rs. (585640 + 100000) = Rs. 685640

Money left after returning due amount of Aman = Rs. (685640 – 627200) = Rs. 58440

Hence, option B is correct.

7. Total Interest =12 × 400 = 4800

$$P = \frac{(S.I \times 100)}{R} \times T = 48000$$

$$\text{Compound interest} = Y\left(1 + \frac{R}{100}\right)^2 - Y = 4800$$

Y = 46829.26

Difference = Rs. (48000 – 46829.26) =1170.74

Hence, option A is correct.

8. Amount after 10% compound interest = 15000 + 1500 = 16500

At the end of the first year he pays back 3000. Next year Principal will be –

16500 – 3000 = 13500

Amount after 10% compound interest = 13500 + 1350 = 14850

At the end of the second year he pays back 3000, next year Principal will be –

14850 – 3000 = 11850

At the end of third year,

Amount after 10% compound interest = 11850 + 1185 = 13035

So, he had to pay Rs. 13035 at the end of third year to clear his debt.

Hence, option D is correct.

9. Amount after compound interest is given by

$$A = p\left(1 + \frac{r}{100}\right)^t$$

$$\frac{676}{441} = \left(1 + \frac{r}{100}\right)^2$$

$$r = \frac{500}{21}\%$$

For a sum to become 3 times of principle, it should earn an interest equal to 2 time of principle

Let the principle be x therefore interest = 2x

$$\text{Rate of S.I.} = \frac{r}{100}$$

$$\frac{1}{100} \times \frac{500}{21}$$

⇒ Rate of interest = 5/21

$$\text{S.I.} = \frac{PRT}{100}$$

$$2x = \frac{x \times \frac{5}{21} \times t}{100}$$

⇒ t = 840 years

Hence, option B is correct.

10. Let the total amount he lent to each person = Rs. x

SI @ 20% per annum at the end of 3 years

$= \frac{P \times R \times T}{100} = \frac{x \times 20 \times 3}{100} = 0.6x$

The total amount he received from Poonam = x + 0.6x = Rs 1.6x

CI @ 25% per annum at the end of 2 years

$= p\left(1 + \frac{r}{100}\right)^n - p = x\left(1 + \frac{25}{100}\right)^2 - x = x \times \frac{25}{16} - x$

= 1.5625x – x =Rs 0.5625x

The amount he received from Sabnam = x + 0.5625x =Rs 1.5625x

The difference = 1.6x – 1.5625x =Rs 5625

0.0375x = 5625

x = Rs 150000

Hence, option D is correct.