Quantitative Aptitude

1. A sum of money invested in SI for 4 years at 10% rate of interest. Amount of interest earned after 4 years invested in 10% CI for 2 years and again invested the total amount in 20% SI for 2 years. The amount of compound interest is Rs. X and simple interest is Y. If the difference between X and Y is Rs.5754, find the sum?

A.Rs.10950
B. Rs.10894
C. Rs.47082
D. Rs.12251
E. Rs.15000

2. Equal amount of sum invested in three schemes for two years. The 1st scheme provided 10% SI, 2nd provided 15% SI and 3rd scheme provided 20% CI. Total interest received after two years from all schemes is what percent of the total sum?

A.15.36%
B.12.25%
C.25%
D.11.02%
E.31.33%

3.

Quantity I: Tina invested a certain amount in simple interest at the rate of 18% per annum for 5 years and Meena invested the same amount in a compound interest scheme at the rate of 15% per annum for 2 years. If the interest received by Tina from the simple interest scheme is Rs.3176.25 more than the interest received by Meena, then find the sum invested by Tina?

Quantity II: Saina invests Rs.x in a simple interest scheme at the rate of 16% per annum for 4 years and he also invests Rs.4500 in another simple interest scheme at the rate of 18% per annum for 3 years. If the interest he gets from the first scheme is Rs.770 more than that of the interest received from the second scheme, and then find the value of x?

A. Quantity I > Quantity II
B. Quantity I ≥ Quantity II
C. Quantity II > Quantity I
D. Quantity II ≥ Quantity I
E. Quantity I = Quantity II or Relation cannot be established

4. A man invested a total amount of Rs. 6500, some part of amount in Scheme A at 12% per annum and the rest in Scheme B at 20% per annum. Total compound interest earned after two years is Rs.2396. If he invested the same money that he invested in scheme A for 6 years and 22.5% per annum in scheme C, find the Simple interest earned from scheme C?

A. Rs. 3475
B. Rs. 3375
C. Rs. 3775
D. Rs. 3675
E. None of these

5. Kavya invested an amount of Rs.p at the compound interest rate of 16% for 2 years and Bhavya invested Rs.(p + 800) at the simple interest rate of 9% for 3 years. If they received the same interest amount, then find the value of p.

A. Rs.2867.14
B. Rs.2877.14
C. Rs.2887.14
D. Rs.2897.14
E. None of these

6. Amit borrowed Rs. 84,000 from a bank at 14 2/7% per annum compound interest and at the end of first year , second year and third year, he paid Rs. 19,000, Rs. 18,000 and Rs. 24,000 respectively. If he wanted to clear his debt at the end of fourth year, then, find what amount he would pay at the end of the fourth year to clear his debt.

A. Rs. 36,720
B. Rs. 25,600
C. Rs. 64,000
D. Rs. 48,560
E. None of these

7. Rahul deposited Rs.(x + 2000) in a bank that will offer simple interest at 15% per annum. After 2 years Rahul received the total amount from the bank which is Rs.3640 and then invested Rs.5x in scheme A which is offering compound interest at 20% per annum. What is the total amount earned by Rahul from scheme A after 2 years?

A. Rs.5760
B. Rs.4560
C. Rs.3490
D. Rs.6760
E. None of these

8. Ravi borrows Rs.X from Bala at 15% simple interest per annum and he adds Rs. Y of his own money and lends it to Praveen at 25% simple interest per annum. At the end of the year, after returning Bala's dues, the net interest retained by Ravi is equal to that occurred to Bala. If Ravi lent Rs.X+3Y to Praveen at 25%, then the net interest retained by Ravi would have increased by Rs.350. If Venkat invested Rs.(X+Y+5800) at the rate of 20% p.a on compound annually, then find the total amount received by Venkat after three years.

A. Rs.17280
B. Rs.17980
C. Rs.15280
D. Rs.19870
E. None of these

9. M borrows Rs.8000 at simple interest from the bank. At the end of three years he again borrows Rs.3000 and closes his account after paying Rs.6715 as interest after 8 years from the time he made the first borrowing. Find the rate of interest?

A.8.5

B.14
C.6s
D.20
E.12

10. Rajesh invested Rs. 2500 each in two Schemes A and B for __years and 2 years respectively. Scheme A offers 20% p.a. simple interest while scheme 'B' offers__ % p.a. compound interest, compounded annually. The difference between the amounts received from the two schemes is Rs.___

The values are given in which of the following options will fill the blanks in the same order in which it is given to make the Statement true:

I. 6, 12, 2364
II. 8, 15, 3193.75
III. 5, 20, 1800

A. Only I
B. Only I and III
C. All I, II and III
D. Only I and II
E. Only II

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Answer Key with Explanation

1. Answer: E

Let the sum be 1000p.
SI in 4 years =1000p*40/100=400p
Now 1400p invest in 10% CI for 2 years.
So, interest earn from CI
=1400p*21/100=294p=X
Again,
Now 1694p invested in 20% SI for 2 years.
So, interest earn from SI
=1694p*40/100=677.6p=Y
So, difference = (677.7-294)p = 383.6p
So, 383.6p=5754
Or, P=15
So, sum is Rs.15000

2. Answer: E

Let the amount of investment in each scheme be 100x.
Interest in first scheme is=100x*2*10/100=20x
Interest in 2nd scheme is=100x*2*15/100=30x
Interest in 3rd scheme is
=100x*[1+20/100]^2-100x=44x
Total interest =94x
Required percentage=[94x/300x]*100=31.33%

3. Answer: A

From quantity I,
SI = P * N * R/100
$(P * 18 * 5 /100) – (P * (1 + 15/100)^2 – P) = 3176.25$

0.9P – 0.3225P = 3176.25

P = 5500

From quantity II,

(x * 16 * 4/100) – 4500 * 18 * 3/100 = 770

0.64x = 3200

x = 5000

Quantity I >quantity II

4. Answer: B

Total compound interest earned (In %) = 2396/6500 x 100 = (2396/65) %

Compound interest earned from scheme A = 12 + 12 + 12 x 12/100 = 25.44%

Compound interest earned from scheme B = 20 + 20 + 20 x 20/100 = 44%

By Allegation,

25.44 x 65 2396 44 x 65

Ratio of money invested in B and A = (2396 – 1653.6): (44 x 65 – 2396) = 742.4:464 = 8:5

Money invested in A = 5/13 x 6500 = Rs. 2500

Required simple interest = 2500 x 22.5% x 6 = Rs. 3375

Hence, the answer is option B

5. Answer: E

Interest received by Kavya $= p\left(1+\frac{16}{100}\right)^2 - p$

Interest received by Bhavya $= \frac{(p+800)\times 9\times 3}{100}$

ATQ,

$$p\left(1+\frac{16}{100}\right)^2 - p = \frac{(p+800)\times 9\times 3}{100}$$

$$p \times \frac{116}{100} \times \frac{116}{100} - p = \frac{27p}{100} + 216$$

0.3456p = 0.27p +216

p = 216/0.0756 = Rs.2857.14.

6. Answer: C

The compound interest in first year = 84,000 × 1/7 = Rs. 12,000

Amount at first year = 84,000 + 12,000 = Rs. 96,000

Principal at second year = 96,000 – 19,000 = Rs. 77,000

Compound interest at second year = 77,000 × 1/7 = Rs. 11,000

Amount at second year = 77,000 + 11,000 = Rs. 88,000

Principal in third year = 88,000 – 18,000 = Rs. 70,000

Compound interest at third year = 70,000 × 1/7 = Rs. 10,000

Amount at third year = 70,000 + 10,000 = Rs. 80,000

Principal in fourth year = 80,000 – 24,000 = Rs. 56,000

Amount at fourth year = 56,000 × 1/7 + 56,000 = 8,000 + 56,000 = Rs. 64,000

Thus, the amount of debt to clear = Rs. 64,000

7. Answer: A

SI=P * N * R/100

SI=3640 – x – 2000=1640 – x

1640 – x=(x + 2000) * 15 * 2/100

164000 – 100x = 30x + 60000

130x=104000

x=Rs. 800

CA=P * (1 + R/100)n

CA=(5 * 800) * (1 + 20/100)2

=Rs. 5760

8. Answer: A

(X+Y) * 25/100 – X * 15/100 = X* 15/100

5X +5Y = 6X

5Y = X

Y= (1/5)X

Also,

(X+3Y)*25/100 – (X+Y)*25/100 = 350

25x +75y -25x-25y = 35000

50y= 35000

Y= Rs.700

X = 700*5 = Rs.3500

Venket invested Rs (X+Y+6000) =

Rs.(3500+700+5800) = Rs.10000

Total amount received by Venkat after 3 years =

10000*(120/100)*(120/100)*(120/100) =

Rs.17280

9. Answer: A

Let interest rate is r%

So, we can say,

8000*3*r/100+11000*r*5/100=6715

Or 240r+550r=6715

Or 790r=6715

Or =8.5%

10. Answer: D

For statement I:

Amount received from scheme 'A = (2500 x 20 x 6)/100 +2500 = Rs. 5500

Amount received from scheme 'B' = 2500(1 +12/100)^2 = Rs. 3136

The required difference =5500 – 3136 = Rs. 2364

Therefore, the statement I is true.

For statement II:

Amount received from scheme 'A = (2500 x 20 x 8)/100 +2500 = Rs. 6500

Amount received from scheme 'B' = 2500(1 +15/100)^2 = Rs. 3306.25

The required difference = 6500 – 3306.25 = Rs. 3193.75

Therefore, statement II is true.

For statement III:

Amount received from scheme 'A = (2500 x 20 x 5)/100 +2500 = Rs. 5000

Amount received from scheme 'B' = 2500(1 +20/100)^2 = Rs. 3600

The required difference = 5000 – 3600 = Rs. 1400

Therefore, statement III is false.