



Date : 12th Jan 2024

Quantitative Aptitude - Interest

English

Q:1 Shiv has two friends Vijay and Raj. He lent Rs. 45000 to Vijay for 3 years and Rs. 15000 to Raj for 5 years on simple interest at the same rate of interest and received Rs. 4200 as interest from both of his friends. Find the rate of interest.

1. 2%
2. 2.5%
3. 3%
4. 4.5%

Q:2 Anuj invested Rs. 15,400 for 2 years on 10% compounded annually. Find the interest earned by Anuj.

1. Rs. 3234
2. Rs. 3223
3. Rs. 3044
4. Rs. 3220

Q:3 What will be the ratio of simple interest earned on Rs. 4500 at the rate of 9% in 3 years to the compound interest earned on Rs. 4500 at the rate of 10% in 2 years?

1. 17 : 115
2. 14 : 29
3. 27 : 121
4. 9 : 7

Q:4 Mohan took money from two different money lenders at 12% per annum and 3% per month, then find the difference in interest amount after two years if he took Rs 2 lakhs and Rs 50000 from those two lenders who charged the interest yearly and monthly, respectively.

1. Rs 45000
2. Rs 36000
3. Rs 24000
4. Rs 12000

Q:5 If a sum of Rs. 1400 lent at simple interest for 2 years 3 months in a scheme yields an interest of Rs 252, then calculate the interest (approximate) that would have been received if the sum was lent at the same rate of annual compound interest for the same time.

1. Rs. 276
2. Rs. 292
3. Rs. 263
4. Rs. 324

Q:6 If the simple interest on a sum of Rs 4400 in 18 months is Rs 280.5. Find the rate of interest (in %).

1. 19/3
2. 15/4
3. 11/3
4. 17/4

Q:7 Find the difference between compound interest and simple interest on a sum of Rs. 16400 for 2 years at the rate of 5% per annum.

1. Rs. 41
2. Rs. 45
3. Rs. 48
4. Rs. 40

Q:8 A sum of money amounts to Rs. 2400 after 3 years and to Rs. 2560 after 6 years on compound interest. Find the sum.

1. Rs. 1800
2. Rs. 2250
3. Rs. 1440
4. Rs. 2000

Q:9 Aryan has Rs. 155,500. He decided to invest his money in two schemes. He invests half of the amount in a scheme with 7% per annum simple interest for two years and in another scheme with 3% per annum simple interest for the 4/5 years. Find the total interest earned by him.

1. Rs.12750
2. Rs.12751
3. Rs.14520
4. Rs.15480

Q:10 The difference between CI and SI for 3 years is Rs. 452. If the rate of interest is 10%. Find the principal.

1. Rs. 14976.7
2. Rs. 14362.7
3. Rs. 14750.7
4. Rs. 14580.64



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Answer Key

| | | | | |
|--------|--------|--------|--------|---------|
| 1. (1) | 2. (1) | 3. (4) | 4. (4) | 5. (3) |
| 6. (4) | 7. (1) | 8. (2) | 9. (2) | 10. (4) |

Answers and Solutions

Q:1 The correct answer is **Option 1** i.e. **2%**.

Shiv lent Rs. 45,000 to Vijay for 3 years and Rs. 15000 to Raj.

$$S.I. = (P \times R \times T)/100 + (P \times R \times T)/100$$

$$\Rightarrow 4200 = (4500 \times R \times 3)/100 + (15000 \times R \times 5)/100$$

$$\Rightarrow 4200 = 135000R/100 + 75000R/100$$

$$\Rightarrow 4200 = 1350R + 750R$$

$$\Rightarrow 4200 = 2100R$$

$$\Rightarrow R = 2\%$$

Hence, the rate of interest is 2%

Q:2 The correct answer is **Option 1** i.e. **Rs. 3234**.

$$P = 15400$$

$$R = 10\%$$

$$T = 2 \text{ years}$$

$$C.I. = P\{(1 + R/100)^T - 1\}$$

where C.I. = Compound Interest, P = Principal, R = rate of interest, and T = Time

$$C.I. = 15400\{(1 + 10/100)^2 - 1\}$$

$$C.I. = 15400\{(11/10)^2 - 1\}$$

$$C.I. = 15400(121/100 - 1)$$

$$C.I. = 15400 \times 21/100$$

$$C.I. = 154 \times 21 = \text{Rs.} 3234$$

Q:3 The correct answer is **Option 4** i.e. **9 : 7**.

S.I. = Simple interest, C.I. = Compound interest, P = Principle, R = Rate and T = Time

$$S.I. = (P \times R \times T)/100$$

$$\Rightarrow S.I. = (4500 \times 9 \times 3)/100$$

$$\Rightarrow S.I. = 45 \times 27 = \text{Rs.} 1215$$

$$C.I. = P\{(1 + R/100)^T - 1\}$$

$$\Rightarrow C.I. = 4500(1 + 10/100)^2 - 1\}$$

$$\Rightarrow C.I. = 4500 \{121/100 - 1\}$$

$$\Rightarrow C.I. = 4500 \times 21/100$$

$$\Rightarrow C.I. = 45 \times 21 = 945$$

$$\text{Ratio: } S.I./C.I. = 1215/945 = 9 : 7$$

Q:4 The correct answer is **option 4** i.e. **Rs 12000**.

For 200000:

$$P = 200000$$

$$\text{Rate} = r = 12\%$$

$$\text{Time} = t = 2 \text{ years}$$

$$\text{Interest amount} = (Prt/100) = (200000 \times 12 \times 2/100) = (2000)24 = \text{Rs } 48000$$

Now, For 50000:

$$\text{Rate} = r = 3\% \text{ per month}$$

$$\text{Time} = t = 2 \text{ years} = 24 \text{ months}$$

$$\text{Interest amount} = (PRT/100) = (50000 \times 3 \times 24/100) = (500)72 = \text{Rs } 36000$$

$$\text{Hence, Difference} = \text{Rs } (48000 - 36000) = \text{Rs } 12000$$

Q:5 The correct answer is **option 3** i.e. **Rs. 263**.

$$\text{Simple interest} = (\text{principal} \times \text{rate} \times \text{time})/100$$

$$\text{Let the rate of interest} = R$$

$$\text{Time} = 2 + 3/12 = 2 + 1/4 = 9/4$$

Now,

$$252 = \{1400 \times R \times (9/4)\}/100$$

$$\Rightarrow (252 \times 4)/(9 \times 14) = R$$

$$\Rightarrow R = 8\%$$

So, the rate of interest = 8%

Now as the interest is compounded annually,

$$\text{Compound interest for 2 years} = 1400 \times (8 + 8 + 64/100) = 14 \times 16.64 = \text{Rs. } 233$$

Now, as the rate for 2nd year is $(8 + (8 \times 8)/100 = 8.64\%)$, the compound interest for the next 3 months = $(1400 \times 8.64\%) \times 3/12 = \text{Rs. } 30.25$

$$\text{Total compound interest} = 233 + 30.25 = 263.25 = \text{Rs. } 263$$

Q:6 The correct answer is **option 4** i.e. **17/4**.

$$\text{Principal} = \text{Rs. } 4400$$

$$\text{Time} = 18 \text{ months} = 18/12 \text{ years} = 3/2 \text{ years}$$

$$\text{Simple interest} = \text{Rs } 280.5$$

$$\Rightarrow S.I. = (P \times r \times t)/100$$

$$\Rightarrow 280.5 \times 100 = 4400 \times r \times 3/2$$

$$\Rightarrow 56100 = 4400 \times r \times 3$$

$$\Rightarrow 3r = 51/4$$

$$\Rightarrow r = 17/4\%$$

Q:7 The correct answer is **Option 1** i.e. **Rs. 41**.

We know that

$$\text{Difference} = PR^2/(100)^2$$

where P = principal and R = Rate

$$\text{Difference} = (16400 \times 5^2)/100^2$$

$$\text{Difference} = (16400 \times 25)/10000$$



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Difference = Rs. 41

Q:8 The correct answer is **option 2** i.e. **Rs. 2250**.

When money grows in compound interest, it follows,

The ratio of principal and amount of 3rd year =
Ratio of Amount of 3rd year and Amount of 6th year

Therefore, $P/2400 = 2400/2560$

$P = 2400 \times 2400/2560 = \text{Rs. } 2250$

Q:9 The correct answer is **Option 2** i.e. **Rs.12751**.

Total amount of Aryan = Rs.155500

We know that,

$S.I. = (P \times R \times T)/100$

here, S.I. = Simple Interest, P = Principal, R = Rate, T = Time

Interest earned from the first scheme

$S.I. = \{(155500/2) \times 7 \times 2\}/100$

$S.I. = (155500 \times 7)/100$

S.I. = Rs. 10885

Interest earned from the second scheme

$S.I. = \{(155500/2) \times 4/5 \times 3\}/100$

S.I. = Rs. 1866

So, the total interest earned = Rs. (10885 + 1866) =
Rs. 12751

Q:10 The correct answer is **Option 4** i.e. **Rs. 14580.64**.

CI - SI = 452

Rate, R = 10%

Let Principal = P

For 3 years difference between CI and SI =
 $P(R/100)\{(300 + R)/100\}$

$\Rightarrow 452 = P(10/100)(310/100)$

$\Rightarrow 452 = 31P/1000$

$\Rightarrow P = 452000/31$

$\Rightarrow P = 14580.64$