Q:1 If the rates of interest are 2%, 5%, and 10% per annum for the first, second, and third years respectively then find the total compound interest on an amount of Rs 18650 for those 3 years.
1. Rs. 4500.12
2. Rs. 3330.15
3. Rs. 3325.15
4. Rs. 3321.56

Q:2 What is the compound interest earned by Virat in 3rd year if Rs. 21500 is invested by him in the bank at the rate of 15.5% per annum?
1. Rs.3654.50
2. Rs. 4445.7
3. Rs.4560.20
4. Rs.4500.50

Q:3 A sum of the amount becomes Rs 2200 at a rate of 5% per annum simple interest in 2 years. What will be the simple interest at the same rate after 4 years?
1. Rs 2600
2. Rs 1800
3. Rs 1200
4. Rs 400

Q:4 Find the difference between compound interest and simple interest on a sum of Rs 29000 at a rate of 10% after 2 years.
1. Rs 2500
2. Rs 290
3. Rs 25
4. Rs 500

Q:5 Ajay deposits Rs.4500 in a bank at the rate of 5% for n years on simple interest. If he gets an interest of Rs. 675 in n years then, find the value of n.
1. 3 years
2. 4 years
3. 5 years
4. 2.5 years

Q:6 The difference between the compound interest payable half yearly and the simple interest on a certain sum lent out at 12% p.a for 1 year is Rs 52. What is the sum?
1. Rs. 14444.44
2. Rs. 13333.33
3. Rs. 12222.22
4. Rs. 11111.11

Q:7 Vikas lent Rs.370 to his friend at the rate of 2.5% for two years. Find the compound interest earned by Vikas in two years.
1. Rs.20.75
2. Rs.10.50
3. Rs.18.73
4. Rs.15.85

Q:8 A broker lent a sum at 10% on simple interest for one year and he got Rs. 2800 as interest. If he lent same sum and at the same rate on compound interest (compounded half-yearly) for a year, how much he got more?
1. Rs 700
2. Rs 70
3. Rs 7
4. Rs 0.7

Q:9 The rate of interest in the first year is 6% and for the second year is 1%. If the compound interest by the end of the second year is Rs 14120, then find the principal.
1. Rs 2,00,000
2. Rs 2,50,000
3. Rs 1,50,000
4. Rs 1,80,000

Q:10 A sum of Rs. 3000 amounts to Rs. 9000 in two years at compound interest. In how many years does the same amount become Rs. 27000?
1. 6 years
2. 8 years
3. 4 years
4. 10 years

Asutosh Mukherjee Road, College Para, Hathi More, Siliguri, West Bengal
+91 - 8436586516, +91-8436900456
thedhronas@gmail.com
thedronas.com

Answer Key

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

Answers and Solutions

Q:1 The correct answer is **Option 4** i.e. **Rs.3321.56.**
$A = P(1 + R/100)^T$
here, A = Amount, P = Principal, R = Rate and T = Time
$A = 18650 \times (1 + 2/100) \times (1 + 5/100) \times (1 + 10/100)$
$A = 18650 \times (51/50) \times (21/20) \times (11/10)$
A = Rs. 21971.56
Amount = Principal + Interest
Interest(C.I.) = Amount - Principal
C.I. = 21971.56 - 18650
C.I. = Rs.3321.56

Q:2 The correct answer is **Option 2** i.e. **Rs. 4445.7.**
Given:
Principal = Rs. 21500, Rate = 15.5% per annum
Concept:
Compound interest earned on 3rd year = Amount received after 3 years - Amount received after 2 years.
Formulae Used:
Compound interest:
$Amount = P \times (1 + R/100)^T$
Where, P = Principal, R = rate of interest and T = Time
And C.I. = Amount - Principal
Calculation:
Applying the formula:
Amount received after 2 years = $21500 \times (1 + 15.5/100)^2 = 21500 \times (1 + 0.155)^2$ = Rs. 28681.5
And, Amount received after 3 years = $21500 \times (1 + 15.5/100)^3 = 21500 \times (1 + 0.155)^3$ = Rs. 33127.2
Interest for the 3rd year = 33127.2 - 28681.5 = Rs. 4445.7

Q:3 The correct answer is **option 4** i.e. **Rs 400.**
Simple interest = $(P \times R \times T)/100$
Amount = Principal + interest
Amount = Rs 2200 at R = 5% for T = 2 years
$\Rightarrow 2200 = SI + P = (P \times 5 \times 2)/100 + P$
$\Rightarrow 2200 = P/10 + P = 11P/10$
$\Rightarrow P = 2000$
We have to find the simple interest at the same rate for 4 years,
$SI = (2000 \times 5 \times 4)/100$ = Rs. 400

Q:4 The correct answer is **option 2** i.e. **Rs. 290.**
We know that, S.I. = PRT/100
where P = principal, R = rate, T = time, A = amount
Also in case of compound interest, $A = P(1 + R/100)^t$ and C.I = (Amount - Principal)
As given, P = Rs.25000 , R = 10% , T = 2 years
$\Rightarrow S.I = (29000 \times 10 \times 2)/100 = 5800$ and,
$\Rightarrow A = 29000(1 + 10/100)^2 = 35090$
$\Rightarrow C.I = (35090 - 29000) = 6090$
Thus, (C.I - S.I) = (6090 - 5800) = 250

Q:5 The correct answer is **Option 1** i.e. **3 years.**
$S.I. = (P \times R \times T)/100$
where, S.I. = Simple Interest, P = Principal, R = Rate and T = Time(n)
$\Rightarrow 675 = (4500 \times 5 \times n)/100$
$\Rightarrow 675 = 45 \times 5 \times n$
$\Rightarrow n = 3$ years

Q:6 The correct answer is **Option 1** i.e. **Rs. 14444.44.**
Let the principal amount (P) be Rs. p
Rate (R) = 12%
Time (T) = 1 year
Simple Interest = PRT/100
$S.I. = p(12)(1)/100 = 0.12p$
Compound Interest = $P[1 + r/100]^t - P$
We have biannual interest, hence we have T = 2 and R = 12/2 = 6% pa
$CI = p(1 + 6/100)^2 - p$
$\Rightarrow CI = 1.1236p - p$
$\Rightarrow CI = 0.1236p$
$\Rightarrow CI - SI = 52$
$\Rightarrow 0.1236p - 0.12p = 52$
$\Rightarrow p(0.1236 - 0.12) = 52$
$\Rightarrow p(0.0036) = 52$
$\Rightarrow p = 52/0.0036$
$\Rightarrow p = 14444.44$

Q:7 The correct answer is **Option 3** i.e. **Rs.18.73.**

Asutosh Mukherjee Road, College Para, Hathi More, Siliguri, West Bengal
+91 - 8436586516, +91-8436900456
thedhronas@gmail.com
thedronas.com

C.I. = $P(1 + R/100)^T - P$
where, C.I. = compound interest, P = Principle, R = Rate and T = Time
C.I. = $370(1 + 2.5/100)^2 - 370$
C.I. = $370 \times (1 + 25/1000)^2 - 370$
C.I. = $370 \times (1025/1000)^2 - 370$
C.I. = $370 \times 1.025^2 - 370$
C.I. = Rs. 18.73

Q:8 The correct answer is **Option 2** i.e **Rs. 70**.
S.I. = PRT/100
Where, P = principal, R = rate, T = time
$A = P(1 + R/100)^t$
CI = A - P
For Simple Interest, Rate = 10%
Interest = Rs 2800
Time = 1year
For compound interest, Rate = 10%/2 = 5%
Time = 1 × 2 year = 2 years (if interest is compounded half-yearly)
Let us first find the principal,
$2800 = [x \times 10 \times 1]/100$
$\Rightarrow x = 28000$
$\Rightarrow P = 28000$
Thus, $A = 28000(1 + 5/100)^2$
$\Rightarrow A = 30870$
C.I. = 30870 - 28000 = 2870
$\Rightarrow$ C.I. = 2870
His benefit = 2870 - 2800 = Rs. 70

Q:9 The correct answer is **Option 1** i.e. **Rs 2,00,000.**
Given,
Rate (r) = 6% and 1%
Interest Amount = Rs 14120
So, Effective rate of interest = 6% + 1% + (6 × 1)/100
$\Rightarrow$ 7% + 6/100 = 7.06%
According to the question:
$\Rightarrow$ 7.06% = 14120
$\Rightarrow 100\% = (14120/7.06) \times 100$
$\Rightarrow (14120/706) \times (100) \times (100)$
$\Rightarrow (20) \times (100) \times (100)$ = Rs 2,00,000

Q:10 The correct answer is **option 3** i.e. **4 years.**
$A = P(1 + R/100)^t$
where, P = principal, R = rate, t = time
A = 9000, P = 3000 for 2 years
We have to find the time in which the amount becomes 27000
By formula,
$\Rightarrow 9000 = 3000(1 + R/100)^2$
$\Rightarrow 9000/3000 = (1+ R/100)^2$
$\Rightarrow 3 = (1 + R/100)^2$
Squaring both sides
$\Rightarrow 9 = (1 + R/100)^4$
Multiplying by 3000 on both sides
$\Rightarrow 27000 = 3000(1 + R/100)^4$
So, after 4 years the amount will become Rs. 27000

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