

# CHAPTER TEST: COMPOUND INTEREST

Mathematics | Class IX (2026/CI/09/ICSE-CBSE/001)

Time: 1.5 Hours

Max. Marks: 33

## GENERAL INSTRUCTIONS

- All questions are compulsory.
- Section A: 5 MCQs (1 mark each).
- Section B: 4 Short Answer Questions (2 marks each).
- Section C: 4 Long Answer Questions (4 marks each).
- Section D: 4 NCERT/Exemplar Highlight Questions (1 mark each).

### Section A: Multiple Choice Questions (1 Mark Each)

1. If the interest is compounded half-yearly, the time period  $n$  and rate  $R$  become:  
(a)  $2n, R/2$  (b)  $n/2, 2R$  (c)  $n, R$  (d)  $2n, 2R$
2. The compound interest on Rs. 10,000 for 2 years at 10% per annum is:  
(a) Rs. 2,000 (b) Rs. 2,100 (c) Rs. 1,000 (d) Rs. 12,100
3. The value of a machine depreciates at the rate of 10% per annum. If its present value is Rs. 1,00,000, its value after 2 years will be:  
(a) Rs. 80,000 (b) Rs. 90,000 (c) Rs. 81,000 (d) Rs. 70,000
4. If the rate of interest for the first and second years are  $r_1\%$  and  $r_2\%$  respectively, the amount after 2 years on Principal  $P$  is:  
(a)  $P(1 + \frac{r_1+r_2}{100})$  (b)  $P(1 + \frac{r_1}{100})(1 + \frac{r_2}{100})$  (c)  $P(1 + \frac{r_1 r_2}{100})$  (d)  $P(1 + \frac{r_1}{200})(1 + \frac{r_2}{200})$
5. The difference between C.I. and S.I. on a certain sum for 1 year at 10% p.a. compounded annually is:  
(a) Rs. 10 (b) Rs. 1 (c) Rs. 0 (d) Rs. 100

### Section B: Short Answer Questions (2 Marks Each)

6. Find the amount and the compound interest on Rs. 8,000 for 1 year at 10% per annum, compounded half-yearly.
7. At what rate percent per annum will a sum of Rs. 4,000 yield a compound interest of Rs. 410 in 2 years?
8. (NCERT) Calculate the amount on Rs. 10,800 for 3 years at  $12\frac{1}{2}\%$  per annum compounded annually.
9. If the population of a town increases by 5% annually and its present population is 92,610, what was its population 3 years ago?

### Section C: Long Answer Questions (4 Marks Each)

10. The difference between simple interest and compound interest on a certain sum of money for 2 years at 4% per annum is Rs. 1. Find the sum.
11. A sum of money was lent for 2 years at 20% per annum compounded annually. If the interest is being compounded half-yearly, it would have fetched Rs. 482 more. Find the sum.
12. Rohit borrowed Rs. 24,000 from a bank at 10% per annum C.I. for 2 years and 4 months. Find the total amount and interest he has to pay to the bank.
13. A property dealer bought a plot for Rs. 5,00,000. Its value appreciates at 10% p.a. during the first year and 12% p.a. during the second year. Find the profit made by the dealer if he sells the plot after 2 years.

### Section D: (1 Mark Each)

1. When interest is compounded quarterly, the rate is divided by \_\_\_\_\_.
2. In the formula  $A = P(1 + \frac{r}{100})^n$ , the variable  $n$  stands for \_\_\_\_\_.
3. If the rate of depreciation is  $R\%$ , the value of an asset after  $n$  years is  $P \times (\text{_____})^n$ .
4. Simple Interest and Compound Interest for the \_\_\_\_\_ year are always equal (assuming annual compounding).

## SOLUTIONS & PREPARATION GUIDE

### Compound Interest Master Tips

Key concepts to solve Class 9 C.I. problems efficiently:

- **Basic Formula:**  $A = P \left(1 + \frac{r}{100}\right)^n$  and  $CI = A - P$ .
- **Half-Yearly Trick:** Remember  $r \rightarrow r/2$  and  $n \rightarrow 2n$ .
- **Fractional Time:** For 2 years 4 months, calculate amount for 2 years first, then find S.I. for the remaining  $1/3$  year on the new amount.
- **Depreciation:** Use the minus sign:  $A = P \left(1 - \frac{r}{100}\right)^n$ .

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