Simple Interest and Compound Interest

Model 1: Simple Interest

1. Simple interest on an amount after 24 months at the rate of 2% per quarter is ₹ 960. What is the amount?

   1) ₹ 2000 2) ₹ 5750 3) ₹ 6000 4) ₹ 4800 5) None of these

2. The simple interest obtained on a certain amount at 7.5% p.a. for two years is ₹ 232.50. What is the amount invested?

   1) ₹ 2000 2) ₹ 1575 3) ₹ 1659 4) ₹ 1600 5) None of these

3. What will be the simple interest on ₹ 10000 after 3 years at the rate of 5% per quarter?

   1) ₹ 3000 2) ₹ 6000 3) ₹ 5000

   4) Cannot be determined 5) None of these

4. Karan took a loan on simple interest at the rate of 12% per year, after 8 months he paid ₹ 8100. How much loan was taken by Karan?

   1) ₹ 7500 2) ₹ 8000 3) ₹ 6,500 4) ₹ 7000 5) None of these

5. An amount becomes ₹ 8,800 in four years at 15% p.a. What is that amount?

   1) ₹ 5,500 2) ₹ 7,500 3) ₹ 5,800 4) ₹ 6,400 5) None of these

6. ₹ 850 are invested for 3 years at the rate of 17.5 % per year on simple interest. What will be a total amount at the end of 3 years?

   1) ₹ 1,147.50 2) ₹ 998.15 3) ₹ 1,296.25 4) ₹ 1, 295, 50 5) None of these

7. Shilpa took a loan of ₹ 800 at the rate of 11% per year for 7 months. How much does she need to pay at the end of 7 months?

   1) ₹ 851 2) ₹ 852 3) ₹ 950 4) ₹ 951 5) None of these

8. Mehra invests an amount of ₹ 18000 to obtain a simple interest at the rate of 15% p.a. for 6 years. What total amount will Mehra get at the end of 6 years?

   1) ₹ 33,500 2) ₹ 35,000 3) ₹ 34,000 4) ₹ 34,200 5) None of these

9. Vijay borrowed some money from Vishnu at simple interest of 8% per eight months. If after 4 years, Vishnu got ₹ 2664 as principal and interest, how much did Vijay borrow from Vishnu?

   1) ₹ 2018 2) ₹ 2000 3) ₹ 1800

   4) Cannot be determined 5) None of these

10. An amount doubles itself at the end of 8 years with a certain rate of simple interest. What will be the total simple interest on ₹ 8000 at that rate at the end of four years?

    1) ₹ 4000 2) ₹ 2000 3) ₹ 8000

    4) Data Inadequate 5) None of these

Model 2: Compound Interest

11. What will be the compound interest on ₹ 5000 for 2 years at 12% per annum?

    1) ₹ 1250 2) ₹ 1200 3) ₹ 1272 4) ₹ 2174 5) None of these

12. What will be the compound interest on ₹ 5000 for 2 years at 7% per annum?

    1) ₹ 725 2) ₹ 700 3) ₹ 724.50 4) ₹ 714.50 5) None of these

13. The compound interest on a certain amount for 2 years at the rate of 5% is ₹ 102.5. Find the amount.

    1) ₹ 500 2) ₹ 725 3) ₹ 850 4) ₹ 1000 5) None of these

14. Manish deposited some money in a bank at the rate of 6% p.a. for 2 years at Compound interest. How much money was deposited if he gets ₹ 11236 on maturity?

    1) ₹ 15000 2) ₹ 14000 3) ₹ 10000 4) ₹ 16000 5) None of these

15. If the annual increase in the population of a town is 4% and the present population is 16224, what was the population two years ago?

    1) 15000 2) 14000 3) 15500 4) 16000 5) None of these

16. Brijesh borrowed a sum of ₹ 2000 at 2% per month simple interest on a yearly basis. It was decided that if the sum would not be returned at the end of the year interest would be charged on the fixed interest. If the sum was returned after two years then how much did Brijesh pay?

    1) ₹ 3,600 2) ₹ 3,844 3) ₹ 3,700 4) ₹ 3,100 5) None of these

17. The compound interest on ₹ 800 at a certain rate for two years is ₹ 65.28. What would be the approximate compound interest on the same amount for three years?

    1) ₹ 100 2) ₹ 85 3) ₹ 90

    4) Cannot be determined 5) None of these

Model 3: Varying Rates of Interest

18. If ₹ 20000 is given as loan for a period of 3 years with interest rates 5%, 7% and 9% for the 1st, 2nd and 3rd years respectively, what is the total amount that needs to be paid in the end?

    1) ₹ 23500 2) ₹ 24200 3) ₹ 18000 4) ₹ 24000 5) None of these

19. If ₹ 10000 is given as loan for a period of 3 years with interest rates 6%, 8% and 10% for the 1st, 2nd and 3rd years, what is the total amount that needs to be paid in the end?

    1) ₹ 13000 2) ₹ 15000 3) ₹ 18000 4) ₹ 12400 5) None of these

20. Nitin borrowed some money at the rate of 6% p.a. for the first three years, 9% p.a. for the next 5 years and 13% p.a. for the period beyond eight years. If the total interest paid by him at the end of 11 years is ₹ 8160, how much money did he borrow?

    1) ₹ 8000 2) ₹ 10000 3) ₹ 12000 4) ₹ 6000 5) None of these

21. An amount of ₹ 10000 is taken as a loan by Vivek at compound interest charging 5 pcpa for 1st year, 10 pcpa for the 2nd year and 20 pcpa for the 3rd year. What is the total interest to be paid by Vivek after 3 years?

    1) ₹ 3860 2) ₹ 4380 3) ₹ 2140 4) ₹ 1780 5) None of these

22. An amount of ₹ 10000 is taken as a loan by Karthik at compound interest charging 8% p.a. for 1st year and 9% p.a. for the 2nd year. How much is the total to be paid by Karthik after 2 years?

    1) ₹ 16000 2) ₹ 14000 3) ₹ 12000 4) ₹ 11772 5) None of these

Model 4: Difference between CI and SI

23. Find the difference between the simple and compound interest at 5% pa for 2 years on a principal of ₹ 2000

1) ₹ 5 2) ₹ 50 3) ₹ 10 4) ₹ 25 5) None of these

24. In two years, at the rate of 5% p.a., the difference of compound and simple interest is ₹ 25. What is the principal?

1) ₹ 11,000 2) ₹ 10,050 3) ₹ 10,500 4) ₹ 10,000 5) None of these

25. If the difference between the simple interest and compound interest on some amount at 20% pa for 3 years is ₹ 48, then what must be the principal amount?

1) ₹ 240 2) ₹ 375 3) ₹ 480 4) ₹ 180 5) None of these

26. The difference between C.I. & S.I. on a sum of money for 3 years at 5% is ₹ $133\frac{7}{16}$. What is the sum?

1) ₹ 16000 2) ₹ 17500 3) ₹ 17000 4) ₹ 18000 5) None of these

Model 5: Principal/Rate of Interest with Respect to Total Amount for Two Different Periods

27. On simple interest, a sum of money becomes ₹ 1120 in 4 years and ₹ 1360 in 7 years. How much money is deposited?

1) ₹ 900 2) ₹ 700 3) ₹ 800 4) ₹ 1200 5) None of these

28. On simple interest, a sum of money becomes ₹ 1,102.5 in three years and ₹ 1,237.5 in 5 years. How much money is deposited?

    1) ₹ 900 2) ₹ 700 3) ₹ 1100 4) ₹ 1200 5) None of these

29. A sum of money invested at compound interest amounts to ₹ 800 in 3 years and ₹ 882 in 5 years. What is the rate of interest?

    1) 2.5% 2) 4% 3) 5% 4) 6.66% 5) None of these

30. A sum of money invested at compound interest amounts to ₹ 800 in 3 years and to ₹ 840 in 4 years. What is the rate of interest per annum?

    1) 2.5% 2) 4% 3) 5% 4) 6.66% 5) None of these

Model 6: Principal Based on CI in 1st and 2nd Year

31. On a particular amount, the compound interest at the end of one year is ₹ 40 and in the 2nd year is ₹ 42. How much money was deposited?

    1) ₹ 850 2) ₹ 900 3) ₹ 800

    4) Cannot be determined 5) None of these

32. On a given amount the compound interest at the end of the first year was ₹ 88 and the second year was ₹ 96.80. How much money was invested?

    1) ₹ 880 2) ₹ 996 3) ₹ 800

    4) Cannot be determined 5) None of these

Model 7: Half - yearly Compounding

33. A sum of ₹ 40000 is invested for 18 months at 20% p.a. on compound interest. If the interest is compounded half yearly, what will be the interest to be paid?

1) ₹ 13530 2) ₹ 13080 3) ₹ 13540 4) ₹ 13240 5) None of these

34. A sum of ₹ 30000 is invested for 18 months at 12% p.a. on compound interest. If the interest is compounded half yearly, how much does it become on maturity?

1) ₹ 35730.48 2) ₹ 30800 3) ₹ 35400.60 4) ₹ 38400.60 5) None of these

Model 8: Compound Interest for a Time Period in Non-integer Years

35. An amount of ₹ 10000 was deposited in a bank for a period of 27 months at the rate of 20% pa on compound interest. What will be the amount received on maturity?

1) ₹ 15120 2) ₹ 12400 3) ₹ 14260 4) ₹ 12500 5) None of these

36. Amit has given a loan to Sumit an amount of ₹ 20000 at an interest rate 8 % p.a. for a period of 30 months. If interest charged is at compound interest, how much does Sumit need to pay in the end?

1) ₹ 23000 2) ₹ 24000.36 3) ₹ 24261.12 4) ₹ 25020.54 5) None of these

Model 9: Difference between CI and SI for Different Rates of Interest

37. What is the difference between compound interest and simple interest for the sum of ₹ 20000 over a 2 year period, if the compound interest is calculated at 20% p.a. and simple interest is calculated at 23% p.a.?

1) ₹ 200 2) ₹ 125 3) ₹ 250 4) ₹ 400 5) None of these

38. Varun borrows ₹ 1500 from two money lenders. He pays interest at the rate of 12% per annum for one loan and at the rate of 14% pa for the other. How much does he borrow at 12% pa if the total interest paid at the end of the year is ₹ 186?

    1) ₹ 1200 2) ₹ 1125 3) ₹ 1250 4) ₹ 1800 5) None of these

39. The simple interest on a sum of money will be ₹ 300 after 5 years. In the next 5 years if the principal is trebled, then what will be the total interest at the end of the 10^{th} year?

    1) ₹ 1200 2) ₹ 1125 3) ₹ 1250 4) ₹ 1800 5) None of these

40. ₹ 800 becomes ₹ 956 in 3 years at a certain rate of simple interest. If the rate of interest is increased by 4%, what amount will ₹ 800 become in 3 years?

    1) ₹ 1020.80 2) ₹ 1025 3) ₹ 1052

    4) Data inadequate 5) None of these

Answers

1 - 3	2 - 5	3 - 2	4 - 1	5 - 1	6 - 3	7 - 1	8 - 4	9 - 3	10 - 1
11 - 3	12 - 3	13 - 4	14 - 3	15 - 1	16 - 5	17 - 1	18 - 2	19 - 4	20 - 1
21 - 1	22 - 4	23 - 1	24 - 4	25 - 2	26 - 2	27 - 3	28 - 1	29 - 3	30 - 3
31 - 3	32 - 1	33 - 4	34 - 1	35 - 1	36 - 3	37 - 4	38 - 1	39 - 1	40 - 3

Additional Examples (English Only)

1. The simple interest on ₹ 4,000 in 3 years at the rate of x% per annum equals the simple interest on ₹ 5,000 at the rate of 12% per annum in 2 years. The value of x is

   a) 10% b) 6% c) 8% d) 9%

2. Simple interest on a certain sum is $\frac{16}{25}$ of the sum. The rate per cent if the rate per cent and time (in years) are equal, is

   a) 6% b) 8% c) 10% d) 12%

3. The time in which ₹ 80,000 amounts to ₹ 92,610 at 10% pa at compound interest, interest being compounded semi-annually is

   a) $1\frac{1}{2}$ years b) 2 years c) $2\frac{1}{2}$ years d) 3 years

4. A sum of money at compound interest doubles itself in 15 years. It will become eight times of itself in

   a) 45 years b) 48 years c) 54 years d) 60 years

5. A sum of money becomes eight times in 3 years, it the rate is compounded annually. In how much time will the same amount at the same compound rate become sixteen times?

   a) 6 years b) 4 years c) 8 years d) 5 years

6. What annual payment will discharge a debt of ₹ 6,450 due in 4 years at 5% per annum simple interest?

   a) ₹ 1,400 b) ₹ 1,500 c) ₹ 1,550 d) ₹ 1,600

7. A man borrows ₹ 21000 at 10% compound interest. How much he has to pay equally at the end of each year, to settle his loan in two years?

a) ₹ 12000 b) ₹ 12100 c) ₹ 12200 d) ₹ 12300

8. A person takes a loan of ₹ 10,000 partly from a bank at 8% p.a. and remaining from another bank at 10% p.a. He pays a total interest of ₹ 950 per annum. Amount of loan taken from the first bank (in ₹) is_

a) 2500 b) 5200 c) 2050 d) 5020

9. If the compound interest on a certain sum for two year at 12% per annum is ₹ 2,544, the simple interest on it at the same time for 2 years will be –

a) ₹ 2,400 b) ₹ 2,500 c) ₹ 2,480 d) ₹ 2,440

10. ₹ 800 becomes ₹ 956 in 3 years at a certain rate of simple interest. If the rate of interest is increased by 4%, what amount will ₹ 800 becomes in 3 years?

a) ₹ 1020.80 b) ₹ 1025 c) ₹ 1052 d) ₹ 1050

11. If the difference between SI and CI for 2 years on a sum of money lent at 5% is ₹6, then the sum is

a) ₹ 2200 b) ₹ 2400 c) ₹ 2600 d) ₹ 2000

12. The simple interest on a sum for 5 years is one-fourth of the sum. The rate of interest per annum is

a) 5% b) 6% c) 4% d) 8%

13. The difference between the compound interest and simple interest on ₹ 10,000 for 2 years is ₹ 25. The rate of interest per annum is

a) 5% b) 7% c) 10% d) 12%

14. A sum of money placed at compound interest doubles itself in 4 years. In how many years will it amount to four times itself?

    a) 12 years b) 13 years c) 8 years d) 16 years

15. A sum of ₹ 12,000 deposited at compound interest become double after 5 years. After 20 years, it will become

    a) ₹ 48,000 b) ₹ 96,000 c) ₹ 1,90,000 d) ₹ 1,92,000

16. Simple interest on a certain sum for 6 years is $\frac{9}{25}$ of the sum. The rate of interest is

    a) 6% b) $6\frac{1}{2}$% c) 8% d) $8\frac{1}{2}$%

17. The difference between the compound interest and simple interest for the amount ₹ 5,000 in 2 years is ₹ 32. The rate of interest is

    a) 5% b) 8% c) 10% d) 12%

18. The simple interest on a sum of money is $\frac{1}{9}$ of the principle and the number of years is equal to rate per cent per annum. The rate per annum is

    a) 3% b) $\frac{1}{3}$% c) $3\frac{1}{3}$% d) $\frac{3}{10}$%

19. The difference between simple interest and compound interest of a certain sum of money at 20% per annum for 2 years is ₹ 48. Then the sum is

    a) ₹ 1,000 b) ₹ 1,200 c) ₹ 1,500 d) ₹ 2,000

20. At what rate per cent per annum will a sum of ₹ 1,000 amount to ₹ 1,102.50 in 2 years at compound interest?

    a) 5 b) 5.5 c) 6 d) 6.5

Answers

1 – a	2 - b	3 - a	4 - a	5 - b	6 - b	7 - b	8 - a	9 - a	10 - c
11 - b	12 - a	13 - a	14 - c	15 - d	16 - a	17 - b	18 - c	19 - b	20 - a