MATHS

BOOKS - RS AGGARWAL MATHS (HINGLISH)

COMPOUND INTEREST

Example

1. Find the compound interest on Rs 25000 for 3 years at 10% per annum, compounded

annually.

A. 8255

B. 8275

C. 8285

D. 8265

Answer: B

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2. Find the compound interest on Rs 5000 for 1 year at 8% per annum, compounded half-yearly.

A. Rs 500

B. Rs 300

C. Rs 408

D. Rs 400

Answer: C

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3. Find the amount of Rs 8000 for 3 years, compounded annually at 10% per annum. Also, find the compound interest.

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4. Find the compound interest on Rs 6400 for 2 years, compounded annually at $7\frac{1}{2}\%$ per annum.

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5. Find the amount of Rs 50000 after 2 years, compounded annually, the rate of interest being 8% p.a. during the first year and 9% p.a. during the second year. Also, find the compound interest.

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6. Find the compound interest on Rs 31250 at 8% per annum for $2\frac{3}{4}$ years.

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7. The simple interest on a sum of money for 3 years at 12% per annum is Rs 6750. What will be the compound interest on the same sum at the rate for the same period, compounded annually?

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8. The difference berween the compount interest, compounded annually and the simple

interest on a certain sum for 2 years at 15% per annum is Rs 180. Find the sum.

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9. A certain sum amounts to Rs 72900 in 2 years at 8% per annum compound interest, compounded annually. Find the sum.

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10. At what rate per cent per annum will a sum of Rs 6250 amount to Rs 7840 in 2 years, compounded annually?

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11. In what time will Rs 1000 amount to Rs 1331 at 10% per annum, compounded annually?

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12. The population of a town is 1,76,400. If it increases at the rate of $5\,\%$ per annum, what will be its population 2 years hence? What was it 2 years ago?

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13. In a certain experiment the count of bacteria was increasing at the rate of $2.5\,\%$ per hour. Initially, the count was $5,12,000$. Find the bacteria at the end of 2 hours.

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14. The population of a town 2 years ago was $62,500$. Due to migration to cities it decreases every year at the rate of 4% per annum. Find its present population.

A. 56700

B. 45000

C. 50000

D. 57600

Answer: D

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15. A motorcycle is bought at Rs 160000. Its value depreciates at the rate of 10% per annum. Find its value after (i) 1 year ,(ii) 2 year.

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16. Find the compound interest on Rs 15625 for $1\frac{1}{2}$ years at 8% per annum when compounded

half-yearly.

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17. Find the compound interest on Rs 160000 for 2 years at 10% per annum when compounded semi-annually.

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18. Find the compound interest on Rs 125000 for 9 months at 8% per annum, compounded

quarterly.

A. 7000

B. 8000

C. 7651

D. 8501

Answer: C

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Exercise 11 A

1. Find the amount and the compound interest on Rs 2500 for 2 years at 10% per annum, compounded annually.

2. Find the amount and the compound interest on Rs 15625 for 3 years at 12% per annum, compounded annually.

3. Find the difference between the simple interest and the compound interest on Rs 5000 for 2 years at 9% per annum.

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4. Ratna obtained a loan of Rs 25000 from the Syndicate Bank to renovate her house. If the rate of interest is 8% per annum, what amount will she have to pay to the bank after 2 years to discharge her debt?

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5. Harppreet borrowed Rs 20000 from her friend at 12% per annum simple interest. She lent it to Alam at the same rate but compounded annually. Find her gain after 2 years.

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6. Manoj deposited a sum of Rs 64000 in a post office for 3 years , compounded annually

at $7\frac{1}{2}\%$ per annum. What amount will he get on maturity?

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7. Divakaran deposited a sum of Rs 6250 in the Allahabad Bank for 1 year, compunded half-yearly at 8% per annum. Find the compound interest he gets.

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8. Michael borrowed Rs 16000 from a finance company at 10% per annum, compounded half- yearly. What amount of money will discharge his debt after $1\frac{1}{2}$ years?

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Exercise 11 B

1. Rs 6000 for 2 years at 9% per annum compunded annually.

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2. Rs 10000 for 2 years at 11% per annum compounded annually.

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3. Find amount and the compound interest on Rs 31250 for 3 years at 8% per annum compounded annually.

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4. Find compound interest on Rs 10240 for 3 years at $12\frac{1}{2}\%$ per annum compounded annually.

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5. Find compound interest on Rs 62500 for 2 years 6 months at 12% per annum compounded annally.

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6. Find compound interest on Rs 9000 for 2 years 4 moths at 10% per annum compounded annually.

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7. Find the amount of Rs 8000 for 2 years compounded annually and the rates being 9% per annum during the first year and 10% per annum during the second year.s

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8. Anand obtained a loan of Rs 125000 from the Allahabad Bank for buying computers. The bank charges compound interest at 8% per annum. Compounded annually. What amount will he have to pay after 3 years to clear the debt?s

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9. Three years ago, Beeru purchased a buffalo from Surjeet for Rs 11000. What payment will

discharge his debt now. The rate of interest being 10% per annum, compounded annually.

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10. Shubhaiaxmi took a loan of Rs 18000 from Surya Finance to purchase a TV set. If the company charges compound interest at 12% per annum during the first year and $12\frac{1}{2}\%$ per annum during the second year, how much will she have to pay after 2 years?

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11. Neha borrowed Rs 24000 from the State Bank of India to buy a scooter. If the rate of interest be 10% per annum compounded annually, what payment will she have to make after 2 years 3 months?

Hint: 2 years 2 months = $2\frac{1}{4}$ years.

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12. Amit borrowed Rs 16000 at per simple interest .On the same day, he lent it to ashu at

the same rate but compounded annually. What does he gain at the end of 2 years?

13. The simple interest on a sum of money for 2 years at 8% per annum is Rs 2400. What will be the compound interest on that sume rate and for the same period?

14. The difference between the compound interest and the simple interest on a certain sum for 2 years at 6% per annum is Rs 90. Find the sum.

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15. The differecnce between the compound interest and th simple interest on a certain sum for 3 years at 10% per annum is Rs 93. Find the sum.

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16. A sum of money amounts to Rs 10240 in 2 years at $6\frac{2}{3}\%$ per annum, compounded annually.

Find the sum.

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17. What sum of money will amount to Rs 21296 in 3 years at 10% per annum, compounded annually?

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18. At what rate per cent per annum will Rs 4000 amount to Rs 4410 in 2 years when compounded annually?s

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19. At what rate per cent per annum will Rs 640 amount to 774.40 in 2 years when compounded annually?

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20. In how many years will Rs 1800 amount to Rs 2178 at 10% per annum when compounded annually?

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21. In how many years will Rs 6250 amount to Rs 7290 at 8% per annum, compounded annually?

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22. The population of a town is 125000. It is increasing at the rate of 2% per annum. What will be its population after 3 years?

A. 142651

B. 132651

C. 232651

D. 332651

Answer: B

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23. Three years ago, the population of a town was 50000. If the annual increase during three sucessive years be at the rate of 5%, 4% and 3% respectively, what is its present population?

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24. The population of a city was 120000 in the year 2013 . During next year it incresed by 6%

but due to an epidemic it decreased by 5% in the following year. What was its population in the year 2015?

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25. The count of bacteria in a certain experiment was incresing at the rate of 2% per hour. Find the bacteria at the end of 2 hours if the count was initially 500000.

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26. The bacteria in a culture grows by 10% in the first hour, decreases by 10% in the second hour and again increases by 10% in the third hour. Find the bacteria at the end of 3 hours if the count was initially 20000.

A. 20967

B. 21000

C. 28890

D. 21780

Answer: D

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27. A machine is purchased for Rs 625000. Its value depreciates at the rate of 8% per annum.What will be its value after 2 years?

A. Rs 929000

B. Rs 529000

C. Rs 629000

D. Rs 729000

Answer: B

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28. A scooter is bought at Rs 56000. Its value depreciates at the rate of 10% per annum. What will be its value after 3 years?

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29. A car is purchased for Rs 348000. Its value depreciates at 10% per annum during the first

year and at 20% per annum during the second year. What will be its value after 2 years?

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30. The value of a machine depreciates at the rate of 10% per annum. It was purchased 3 years ago. If its present value is Rs 291600. for how much it purchased?

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Exercise 11 C

1. Find the amount and the compound interest on Rs 8000 for 1 year at 10% per annum, compounded half-yearly.

A. Amount = Rs 5820, CI = Rs 920

B. Amount = Rs 9820, CI = Rs 820

C. Amount = Rs 8820, CI = Rs 820

D. Amount = Rs 7820, CI = Rs 820

Answer: C

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2. Find the amount and the compound interest on Rs 31250 for $1\frac{1}{2}$ years at 8% per annum, compounded half-yearly.

A. Amount = Rs 35152, CI = Rs 9902

B. Amount = Rs 45152, CI = Rs 3902

C. Amount = Rs 35152, CI = Rs 3902

D. Amount = Rs 36152, CI = Rs 3902

Answer: C

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3. Find the amount and the compound interest on Rs 12800 for 1 years $7\frac{1}{2}\%$ per annum, compounded semi- annually.

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4. Find the amount and the compound Interest on Rs 160000 for 2 years at 10% per annum, compounded half- yearly.

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5. Mr. Arora borrowed Rs 40960 from a bank to start a play school. If the bank charges 12.5% per annum compounded half-yearly, what amount will he have to pay after 1.5 years?

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6. Mohd. Aslam purchased a house from Avas Vikas Parishad on credit. If the cost of the house is Rs 125000 and the Parishad charges

interest at 12% per annum compounded half-yearly, find the interest paid by Aslam after a year and half.

A. Rs 89877

B. Rs 20000

C. Rs 28887

D. Rs 23877

Answer: D

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7. Sheela deposited Rs 20000 in a bank, where the interest is credited half-yearly. If the rate of interest paid by the bank is 6% per annum, what amount will she get after 1 year?

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8. Neeraj lent Rs 65536 for 2 years at $12\frac{1}{2}\%$ per annum, compounded annually. How much more could he earn if the interest were compounded half-yearly?

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9. Sudershan deposited $Rs32,000$ in a bank where the interest is credited quarterly. If the rate of interest be 5% per annum, what amount will he receive after 6 months?

A. $\text{Rs } 32{,}805$

B. $\text{Rs } 32{,}000$

C. $\text{Rs } 32{,}430$

D. $\text{Rs } 32{,}555$

Answer: A

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10. Arun took a loan of Rs 390625 from Kuber Finance. If the company charges interest at 16% per annum, compounded quarterly, what amount will discharge his debt after one year?

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Exercise 11 D

1. The compound interest on Rs 5000 at 8% per annum for 2 years, compounded annually, is

A. RS 800

B. RS 825

C. RS 832

D. RS 850

Answer: C

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2. The compound interest on RS 10000 at 10% per annum for 3 years, compounded annually, is

A. Rs 1331

B. Rs 3310

C. Rs 3130

D. Rs 13310

Answer: B

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3. The compound interest on Rs 10000 at 12% per annum for $1\frac{1}{2}$ years, compounded annually. Is

A. Rs 1872

B. Rs 1720

C. Rs 1910.16

D. Rs 1782

Answer: A

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4. The compound interest on Rs 4000 at 10% per annum for 2 years 3 months, compounded annually, is

A. Rs 916

B. Rs 900

C. Rs 961

D. Rs 898

Answer: C

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5. A sum of Rs 25000 was give as lon on compound interest for 3 years compounded annally at 55 per annum during the first year, 6% per annum during the second year and 8% per annum during the third year. The compound interest is

A. Rs 5035

B. Rs 5051

C. Rs 5072

D. Rs 5150

Answer: B

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6. The compound interest on Rs 6250 at 8% per annum for 1 year, compounded half yearly, is

A. Rs 500

B. Rs 510

C. Rs 550

D. Rs 512.50

Answer: B

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7. The compound interest on Rs 40000 at 6% per annum for 6 months, compounded quarterly, is

A. Rs 1209

B. Rs 1902

C. Rs 1200

D. Rs 1306

Answer: A

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8. The present population of a town is 24000. If if increases at the rate of 5% per annum, what will be its population after 2 years?

A. 26400

B. 26460

C. 24460

D. 26640

Answer: B

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9. The value of a machine dereciates at the rate of 10% per annum. It was purchased 3 years ago for 60000. What is the present value of the machine?

A. Rs 53640

B. Rs 51680

C. Rs 43740

D. Rs 43470

Answer: C

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10. The value of a machine depreciates at the rate of 20% per annum. It was purchased 2 years ago. If its present value is Rs 40000, for hoe much was it purchased?

A. Rs 56000

B. Rs 62500

C. Rs 65200

D. Rs 56500

Answer: B

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11. The annual rate of growth in population of a town is 10%. If its present population is 33275, what was it 3 years ago?

A. 25000

B. 27500

C. 30000

D. 26000

Answer: A

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12. If the simpe interest on a sum of money at 5% per annum for 3 years is Rs 1200 then the

compound interest on the same sum for the same period at the same rate will be

A. Rs 1225

B. Rs 1236

C. Rs 1248

D. Rs 1261

Answer: D

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13. If the compound interest on a sum for 2 years at $12\frac{1}{2}\%$ per annum is Rs 510, the simple interest on the same sum at the same rate for the same period of time is: (a) Rs 400 (b) Rs 450 (c) Rs 460 (d) Rs 480

A. Rs 400

B. Rs 450

C. Rs 460

D. Rs 480

Answer: D

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14. The sum that amounts to Rs 4913 in 3 years at $6\frac{1}{4}\%$ per annum compounded annually. Is

A. Rs 3096

B. Rs 4076

C. Rs 4085

D. Rs 4096

Answer: D

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15. At what rate per cent per annum will a sum of Rs 7500 amount to Rs 8427 in 2 years, compounded annually?

A. 0.04

B. 0.05

C. 0.06

D. 0.08

Answer: C

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Test Paper 11

1. Find the amount and the compound Interest on Rs 3000 for 2 years at 10% per annum.

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2. Find the amount of Rs 10000 after 2 years compounded annually, the rate of inierrest

being 10% per anum dring the first year and 12% per annum the second year. Also find the compound interest.

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3. Find the amount and the compound interest on Rs 6000 for 1 year at 10% per annum compounded half- yearly.

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4. A sum amounts to Rs 23762 in 2 years at 9% per annum, compounded annually. Find the sum.

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5. A scooter is bought for Rs 32000. Its value depreclates at 10% per annum. What will be Its value after 2 years?

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6. The compound interest on $Rs5000$ at $10\,\%$ per annum for 2 years is

A. $Rs550$

B. $Rs1050$

C. $Rs950$

D. $Rs825$

Answer: B

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7. The annual rate of growth in population of a town is 5% . If its present population is 4000. what will be its population after 2 years?

A. 4411

B. 4400

C. 4410

D. 4800

Answer: C

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8. At what rate per cent per annum will Rs 5000 amount to Rs 5832 in 2 years, compounded annually?

A. 0.11

B. 0.1

C. 0.09

D. 0.08

Answer: D

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9. If the simple interest on a sum of money at 10% per annum for 3 years is Rs 1500, then the compound interest on the same sum at the same rate for the same period is

A. Rs 1655

B. Rs 1155

C. Rs 1555

D. Rs 1855

Answer: A

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10. If the compound interest on a certain sum for 2 years at 10% per annum is Rs 1050, the sum is

A. Rs 3000

B. Rs 4000

C. Rs 5000

D. Rs 6000

Answer: C

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Test Paper 11 Fill In The Blanks

1. (i) $A = P\left(1 + \frac{\cdots\cdots\cdot}{100}\right)^n$

A. T

B. N

C. R

D. None

Answer: C

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2. ..... = Amount − Principal.

A. Simple Interest

B. Compound Interest

C. Both

D. None

Answer: B

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3. If the value of a machine is RS P and it depreciates at R% per annum, then its value after 2 years is .....

A. Rs $P\left(1-\frac{R}{100}\right)^3$

B. $RsP\left(1-\frac{R}{100}\right)^2$

C. $RsP\left(1-\frac{R}{200}\right)^2$

D. $RsP\left(1-\frac{R}{400}\right)^4$

Answer: B

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4. If the population P of a town increases at R% per annum, then its population after 5 years is .....

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