

CDS-AFCAT 1 2025

SSBCrack
EXAMS

LIVE

MATHS

**SIMPLE &
COMPOUND INTEREST**

CLASS 3



NAVJYOTI SIR



04 Oct 2024 Live Classes Schedule

9:00AM --- 04 OCTOBER 2024 DAILY DEFENCE UPDATES --- DIVYANSHU SIR

SSB INTERVIEW LIVE CLASSES

9:00AM --- OVERVIEW ON OIR & PRACTICE --- ANURADHA MA'AM

NDA 1 2025 LIVE CLASSES

1:00PM --- BIOLOGY - ANIMAL KINGDOM --- SHIVANGI MA'AM

4:00PM --- MATHS - SETS, RELATION & FUNCTION - CLASS 2 --- NAVJYOTI SIR

5:30PM --- ENGLISH - SPOTTING ERRORS - CLASS 2 --- ANURADHA MA'AM

CDS 1 2025 LIVE CLASSES

1:00PM --- BIOLOGY - ANIMAL KINGDOM --- SHIVANGI MA'AM

2:30PM --- MATHS - SI & CI - CLASS 3 --- NAVJYOTI SIR

5:30PM --- ENGLISH - SPOTTING ERRORS - CLASS 2 --- ANURADHA MA'AM

AFCAT 1 2025 LIVE CLASSES

2:30PM --- MATHS - SI & CI - CLASS 3 --- NAVJYOTI SIR

4:00PM --- STATIC GK - SPORTS & GAMES TERMINOLOGY - 2 --- DIVYANSHU SIR

5:30PM --- ENGLISH - SPOTTING ERRORS - CLASS 2 --- ANURADHA MA'AM



Q) A sum of ₹ 18,000 is lent at 10% p.a. compound interest, compounded annually. What is the difference between the compound interest for 3rd year and 4th year?

- (a) ₹ 220.60
- (c) ₹ 221.80

- (b) ₹ 217.80 ✓
- (d) ₹ 215.40

$$\begin{array}{r}
 \underline{21780} \rightarrow 21780 \\
 + 2178 \\
 \hline
 A_3 = \underline{23958}
 \end{array}
 \quad
 \begin{array}{r}
 C_3 = 23958 \\
 - 21780 \\
 \hline
 \underline{2278}
 \end{array}$$

$$\begin{array}{r}
 \textcircled{18000} \rightarrow 18000 \\
 + 1800 \\
 \hline
 \textcircled{19800} \quad (A_1 - 1st \text{ yr})
 \end{array}
 \quad
 \left. \begin{array}{l} \\ \\ \end{array} \right\} C_1 = 19800 - 18000 = 1980$$

$$\begin{array}{r}
 19800 \rightarrow 19800 \\
 + 1980 \\
 \hline
 \underline{21780} \quad (A_2)
 \end{array}
 \quad
 \begin{array}{l}
 C_2 = 21780 - 19800 \\
 C_2 = 1980
 \end{array}$$

$$\begin{array}{r}
 A_4 = 23958 \\
 + 2395.8 \\
 \hline
 \underline{26353.8}
 \end{array}
 \quad
 \begin{array}{r}
 C_4 - C_3 \\
 \hline
 2395.8 \\
 - 2278.0 \\
 \hline
 \underline{117.8}
 \end{array}$$

Q) A sum of ₹ 18,000 is lent at 10% p.a. compound interest, compounded annually. What is the difference between the compound interest for 3rd year and 4th year?

- (a) ₹ 220.60 (b) ₹ 217.80
(c) ₹ 221.80 (d) ₹ 215.40

Ans: (b)

Q) A sum of ₹5,000 is divided into two parts such that the simple interest on the first part for $4\frac{1}{5}$ years at $6\frac{2}{3}\%$ p.a is double the simple interest on the second part for $2\frac{3}{4}$ years at 4% p.a. What is the difference between the two parts?

- (a) ₹680 (b) ₹600 (c) ₹560 (d) ₹620

Ans: (b)

Q) There is 60% increase in an amount in 6 years at simple interest. What will be the compound interest on ₹ 12,000 after 3 years at the same rate of interest?

- (a) ₹ 2,160 (b) ₹ 3,120
 (c) ₹ 3,972 (d) ₹ 6,240

$$SI = \frac{60}{100} P = \frac{3}{5} P$$

$$\frac{3}{5} P = \frac{P \times r \times 6}{100}$$

$$r = \underline{10\%}$$

$$A = 12000 \left(1 + \frac{10}{100}\right)^3$$

$$= 12000 \times \frac{11}{10} \times \frac{11}{10} \times \frac{11}{10}$$

$$= 12 \times 1331$$

$$= \underline{15972}$$

$$\begin{array}{r} \text{CI} \\ \hline 15972 \\ - 12000 \\ \hline 3972 \\ \hline \end{array}$$

Q) Out of a certain sum, $\frac{1}{3}$ rd is invested at 3%, $\frac{1}{6}$ th at 6% and

the rest at 8%. If the simple interest for 2 years from all these investments amounts to ₹ 600, find the original sum.

- (a) ₹ 4000 (b) ₹ 5000 (c) ₹ 6000 (d) ₹ 7000

$$12x = 60000$$

$$x = \underline{5000}$$

$$x \left(1 - \left(\frac{1}{3} + \frac{1}{6} \right) \right) = x \left(1 - \frac{1}{2} \right) = \frac{1}{2} x$$

$$\frac{\frac{x}{3} \times 3 \times 2}{100} + \frac{\frac{x}{6} \times 6 \times 2}{100} + \frac{\frac{1}{2}x \times 8 \times 2}{100} = 600$$

$$2x + 2x + 8x = 60000$$

- Q) Out of a certain sum, $\frac{1}{3}$ rd is invested at 3%, $\frac{1}{6}$ th at 6% and the rest at 8%. If the simple interest for 2 years from all these investments amounts to ₹ 600, find the original sum.
- (a) ₹ 4000 (b) ₹ 5000 (c) ₹ 6000 (d) ₹ 7000

Ans: (b)

Q) If the amount on a certain principal in 3 years at 12% rate of interest compounded annually is ₹ 12,000, what will be the amount (in ₹) after the 4th year?

- (a) 14330 (b) 15440 (c) 13440 (d) 14550

$$12000 = P \left(1 + \frac{12}{100}\right)^3$$

$$\frac{12000}{\cancel{12000} \times \frac{25}{\cancel{28}} \times \frac{25}{\cancel{28}} \times \frac{25}{\cancel{28}}} = \frac{325 \times 25 \times 25 \times 25}{7 \times 7 \times 14}$$

$$= \frac{125 \times 325}{14 \times 49} = \frac{686}{14}$$

$$P \left(1 + \frac{12}{100}\right)^4 = \underline{\hspace{2cm}}$$

Q) If the amount on a certain principal in 3 years at 12% rate of interest compounded annually is ₹ 12,000, what will be the amount (in ₹) after the 4th year?

- (a) 14330 (b) 15440 (c) 13440 (d) 14550

Ans: (c)

Q) ₹ 260200 is divided between Ram and Shyam so that the amount that Ram receives in 3 years is the same as that Shyam receives in 6 years. If the interest is compounded annually at the rate of 4% per annum then Ram's share is

$$\frac{x}{260200 - x} = \left(\frac{104}{100}\right)^3$$

- (a) 125000 (b) 137745 (c) 152000 (d) 108200

$$\frac{x (R)}{260200 - x (S)} = \left(1 + \frac{4}{100}\right)^3 = (260200 - x) \left(1 + \frac{4}{100}\right)^6$$

$$x \left(\frac{104}{100}\right)^3 = (260200 - x) \left(\frac{104}{100}\right)^6$$

$$1000000x = (104)^3 x (260200 - x)$$

$$2000000x = 104 \times 104 \times 104 \times 260200$$

$$+ 64x$$

$$+ 4800x$$

$$120000x$$

Q) ₹ 260200 is divided between Ram and Shyam so that the amount that Ram receives in 3 years is the same as that Shyam receives in 6 years. If the interest is compounded annually at the rate of 4% per annum then Ram's share is

- (a) 125000 (b) 137745 (c) 152000 (d) 108200

Ans: (b)

- Q)** A man borrowed some money and agreed to pay-off by paying ₹ 3150 at the end of the 1st year and ₹ 4410 at the end of the 2nd year. If the rate of compound interest is 5% per annum, then the sum is
- (a) ₹ 5000 (b) ₹ 6500 (c) ₹ 7000 (d) ₹ 9200

- Q)** A man borrowed some money and agreed to pay-off by paying ₹ 3150 at the end of the 1st year and ₹ 4410 at the end of the 2nd year. If the rate of compound interest is 5% per annum, then the sum is
- (a) ₹ 5000 (b) ₹ 6500 (c) ₹ 7000 (d) ₹ 9200

Ans: (c)

Q) A person invested some amount at the rate of 12% simple interest and the remaining at 10%. He received yearly an interest of ₹ 130. Had he interchanged the amounts invested, he would have received an interest of ₹ 134. How much money did he invest at different rates?

- (a) ₹ 500 at the rate of 10%, ₹ 800 at the rate of 12%
- (b) ₹ 700 at the rate of 10%, ₹ 600 at the rate of 12%
- (c) ₹ 800 at the rate of 10%, ₹ 400 at the rate of 12%
- (d) ₹ 700 at the rate of 10%, ₹ 500 at the rate of 12%

Q) A person invested some amount at the rate of 12% simple interest and the remaining at 10%. He received yearly an interest of ₹ 130. Had he interchanged the amounts invested, he would have received an interest of ₹ 134. How much money did he invest at different rates?

- (a) ₹ 500 at the rate of 10%, ₹ 800 at the rate of 12%
- (b) ₹ 700 at the rate of 10%, ₹ 600 at the rate of 12%
- (c) ₹ 800 at the rate of 10%, ₹ 400 at the rate of 12%
- (d) ₹ 700 at the rate of 10%, ₹ 500 at the rate of 12%

Ans: (d)

Q) A merchant commences with a certain capital and gains annually at the rate of 25%. At the end of 3 years he has ₹10,000. What is the original amount that the merchant invested?

(a) ₹ 5,120

(b) ₹ 5,210

(c) ₹ 5,350

(d) ₹ 5,500

Q) A merchant commences with a certain capital and gains annually at the rate of 25%. At the end of 3 years he has ₹10,000. What is the original amount that the merchant invested?

- (a) ₹ 5,120 (b) ₹ 5,210
(c) ₹ 5,350 (d) ₹ 5,500

Ans: (b)

Q) A certain sum at simple interest amounts to ₹ 1350 in 5 years and to ₹ 1620 in 8 years. What is the sum?

(a) ₹ 700

(b) ₹ 800

(c) ₹ 900

(d) ₹ 1000

Q) A certain sum at simple interest amounts to ₹ 1350 in 5 years and to ₹ 1620 in 8 years. What is the sum?

(a) ₹ 700

(b) ₹ 800

(c) ₹ 900

(d) ₹ 1000

Ans: (c)

Q) If a sum of money at a certain rate of simple interest per year doubles in 5 years and at a different rate of simple interest per year becomes three times in 12 years, then the difference in the two rates of Simple interest per year is

(a) 2%

(b) 3%

(c) $3\frac{1}{3}\%$

(d) $4\frac{1}{3}\%$

Q) If a sum of money at a certain rate of simple interest per year doubles in 5 years and at a different rate of simple interest per year becomes three times in 12 years, then the difference in the two rates of Simple interest per year is

(a) 2%

(b) 3%

(c) $3\frac{1}{3}\%$

(d) $4\frac{1}{3}\%$

Ans: (c)

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TIME & WORK

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