

Exercise 14.2

11

Q1 Compute the amount and the Compound Interest in each of the following by using formulae when.

(i) Principal = Rs 3000, Rate = 5%, Time = 2 years.

Sol:

$$\begin{aligned} A &= P \left(1 + \frac{R}{100} \right)^n \\ &= 3000 \left(1 + \frac{5}{100} \right)^2 = 3000 \left(1 + \frac{1}{20} \right)^2 \\ &= 3000 \left(\frac{21}{20} \right)^2 = 3000 \times \frac{441}{400} \\ &= \text{Rs } 3307.5 \end{aligned}$$

$$\begin{aligned} \therefore CI &= A - P \\ &= \text{Rs } 3307.5 - \text{Rs } 3000 \\ &= \text{Rs } 307.5 \end{aligned}$$

(ii) Given, $P = \text{Rs } 3000$, $R = 18\% \text{ p.a}$, $T = 2 \text{ years}$.

Sol:

$$\begin{aligned} A &= P \left(1 + \frac{R}{100} \right)^n = 3000 \left(1 + \frac{18}{100} \right)^2 \\ &= 3000 \left(1 + \frac{9}{50} \right)^2 = 3000 \left(\frac{50+9}{50} \right)^2 \\ &= 3000 \times \left(\frac{59}{50} \right)^2 \\ &= 3000 \times \frac{59}{50} \times \frac{59}{50} = \text{Rs } 4117.2 \end{aligned}$$

$$\begin{aligned} \therefore CI &= A - P \\ &= 4117.2 - 3000 = \text{Rs } 1117.2 \end{aligned}$$

(iii) Principal = Rs 5000, $R = 10$ paise per rupee per annum.

$T = 2$ years.

Sol

$$A = P \left(1 + \frac{R}{100} \right)^T$$

$$\begin{aligned} \Rightarrow A &= 5000 \left(1 + \frac{10}{100} \right)^2 = 5000 \times \left(\frac{11}{10} \right)^2 \\ &= 5000 \times \frac{121}{100} \\ &= \text{Rs } 6050 \end{aligned}$$

$$\begin{aligned} \therefore CI &= A - P = 6050 - 5000 \\ &= \text{Rs } 1050 \end{aligned}$$

(iv) Given $P = \text{Rs } 12800$, $R = 7\frac{1}{2}\% = \frac{15}{2}\%$, $T = 3$ years.

Sol:

$$\begin{aligned} A &= 12800 \left(1 + \frac{15}{200} \right)^3 \\ &= 12800 \left(1 + \frac{3}{40} \right)^3 = 12800 \times \left(\frac{43}{40} \right)^3 \\ &= 12800 \times \frac{43}{40} \times \frac{43}{40} \times \frac{43}{40} \\ &= \text{Rs } 15901.4 \end{aligned}$$

$$\begin{aligned} \therefore CI &= A - P \\ &= \text{Rs } 15901.4 - 12800 \\ &= \text{Rs } 3101.4 \end{aligned}$$

(v) $P = \text{Rs } 2000$, $R = 4\%$, $T = 3 \text{ yrs}$

Sol:

$$\begin{aligned}
 A &= P \left(1 + \frac{R}{100}\right)^n \\
 &= 2000 \left(1 + \frac{4}{100}\right)^3 \\
 &= 2000 \left(1 + \frac{1}{25}\right)^3 = 2000 \times \left(\frac{26}{25}\right)^3 \\
 &= 2000 \times \frac{26}{25} \times \frac{26}{25} \times \frac{26}{25} \\
 &= \text{Rs } 2249.72
 \end{aligned}$$

$$\begin{aligned}
 \therefore CI &= A - P \\
 &= \text{Rs } 2249.72 - \text{Rs } 2000 \\
 &= \text{Rs } 249.72
 \end{aligned}$$

(vi) $P = \text{Rs } 10000$, $R = 20\% \text{ p.a.}$, $T = 2 \text{ years.}$

Sol: When compounded half yearly

$$\begin{aligned}
 A &= P \left(1 + \frac{R}{200}\right)^{2n} \\
 &= 10000 \left(1 + \frac{20}{200}\right)^{2 \times 2} \\
 &= 10000 \left(\frac{11}{10}\right)^4 = 10000 \times \frac{11 \times 11 \times 11 \times 11}{10000} \\
 &= \text{Rs } 14641
 \end{aligned}$$

$$\begin{aligned}
 \therefore CI &= A - P \\
 &= \text{Rs } 14641 - 10000 \\
 &= \text{Rs } 4641
 \end{aligned}$$

(VII) $P = \text{Rs } 160000$, $R = 10\%$ Compounded half yearly (14)
 $T = 2 \text{ years.}$

Sol:

$$\begin{aligned} A &= P \left(1 + \frac{R}{200} \right)^{2n} \\ &= 160000 \left(1 + \frac{10}{200} \right)^{2 \times 2} \\ &= 160000 \left(\frac{21}{20} \right)^4 = 160000 \times \frac{21}{20} \times \frac{21}{20} \times \frac{21}{20} \times \frac{21}{20} \\ &= \text{Rs } 194481 \end{aligned}$$

$$\begin{aligned} \therefore CI &= A - P \\ &= 194481 - 160000 \\ &= \text{Rs } 34481 \end{aligned}$$

Q.2 Find the amount of Rs 2400 after 3 years, when the interest is compounded annually at the rate of 20% P.a.

Sol: $P = \text{Rs } 2400$, $T = 3 \text{ years}$, $R = 20\%$.

$$\begin{aligned} A &= P \left(1 + \frac{R}{100} \right)^n \\ &= 2400 \left(1 + \frac{20}{100} \right)^3 \\ &= 2400 \left(1 + \frac{1}{5} \right)^3 = 2400 \times \left(\frac{6}{5} \right)^3 \\ &= 2400 \times \frac{216}{125} \\ &= \text{Rs } 4147.2 \end{aligned}$$

$$\therefore \text{Amount} = \text{Rs } 4147.2$$

Q.3 Rahman lent Rs 16000 to Rasheed at the rate of $12\frac{1}{2}\%$ p.a Compounded interest. Find the amount payable at Rasheed to Rahman after 3 years.

Sol: $P = \text{Rs } 16000$, $R = 12\frac{1}{2}\% = \frac{25}{2}\%$, $T = 3 \text{ yrs}$

$$\begin{aligned} A &= P \left(1 + \frac{R}{100} \right)^n \\ &= 16000 \left(1 + \frac{25}{200} \right)^3 \\ &= 16000 \left(\frac{9}{8} \right)^3 = 16000 \times \frac{729}{512} \\ &= \text{Rs } 22781.25 \end{aligned}$$

$\therefore \text{Amount} = \text{Rs } 22781.25$

Q.4 Meena borrowed a sum of Rs 1000 from Sita for two years. If the rate of interest is 10% compounded annually, find the amount that Meena has to pay back?

Sol: $P = \text{Rs } 1000$, $T = 2 \text{ years}$, $R = 10\%$

$$\begin{aligned} A &= P \left(1 + \frac{R}{100} \right)^n \\ &= 1000 \left(1 + \frac{10}{100} \right)^2 = 1000 \left(\frac{11}{10} \right)^2 \\ &= 1000 \times \frac{121}{100} \\ &= \text{Rs } 1210 \end{aligned}$$

Q.5 Find the difference between the Compound Interest and Simple Interest on a sum of Rs 50000, at 10% p.a for 2 years.

Sol! $P = \text{Rs } 50000$, $R = 10\%$, $T = 2 \text{ yr.}$

$$\begin{aligned} \text{S.I} &= \frac{PRT}{100} = \frac{50000 \times 10 \times 2}{100} \\ &= \text{Rs } 10000 \end{aligned}$$

Now, for Compound Int

$$\begin{aligned} A &= 50000 \left(1 + \frac{10}{100}\right)^2 \\ &= 50000 \left(\frac{11}{10}\right)^2 = 50000 \times \frac{121}{100} \\ &= 60500 \end{aligned}$$

$$\begin{aligned} \text{CI} &= A - P \\ &= 60500 - 50000 = \text{Rs } 10500 \end{aligned}$$

Now $\text{C.I} - \text{S.I} = 10500 - 10000$
 $= \text{Rs } 500$

Q.6 Amit borrowed Rs 16900 at $17\frac{1}{2}\%$ p.a 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?

Sol.Given, $P = \text{Rs } 16000$ $R = 17\frac{1}{2}\% \text{ p.a.} = 17.5\% , T = 2 \text{ yrs.}$

$$\begin{aligned} \text{Interest paid by Amit} &= \frac{P \times R \times T}{100} \\ &= \frac{16000 \times 17.5 \times 2}{100} = \text{Rs } 5600 \end{aligned}$$

Amount gained by Amit

$$\begin{aligned} \Rightarrow A &= P \left(1 + \frac{R}{100}\right)^n \\ &= 16000 \left(1 + \frac{17.5}{100}\right)^2 \\ &= 16000 \left(\frac{117.5}{100}\right)^2 \\ &= \text{Rs } 22090 \end{aligned}$$

$$\begin{aligned} CI &= A - P \\ &= \text{Rs } 22090 - \text{Rs } 16000 \\ &= \text{Rs } 6090 \end{aligned}$$

$$\begin{aligned} \therefore \text{Amit total gain} &= \text{Rs } 6090 - \text{Rs } 5600 \\ &= \text{Rs } 490 \end{aligned}$$

Q.7 Find the amount of Rs 4096 for 18 months at $12\frac{1}{2}\% \text{ p.a.}$, the interest being compounded semiannually.

$$\begin{aligned} \text{Sol.} \quad P &= \text{Rs } 4096, \quad r = 12\frac{1}{2}\% = \frac{25}{2}\% , T = 18 \text{ months} \\ &= \frac{18}{12} = \frac{3}{2} \text{ yrs.} \end{aligned}$$

By using formula

$$\begin{aligned}
 A &= P \left(1 + \frac{R}{200} \right)^{2n} \\
 &= 4096 \left(1 + \frac{25}{400} \right)^{2 \times \frac{3}{2}} \\
 &= 4096 \left(1 + \frac{1}{16} \right)^3 = 4096 \times \left(\frac{17}{16} \right)^3 \\
 &= 4096 \times \frac{17}{16} \times \frac{17}{16} \times \frac{17}{16} \\
 &= \text{Rs } 4913
 \end{aligned}$$

$$\therefore \text{Amount} = \text{Rs } 4913$$

Q.8 Find the amount and the Compound Interest on Rs. 8000 for $1\frac{1}{2}$ years at 10% p.a compounded half yearly.

Sol:

$$P = \text{Rs } 8000, T = 1\frac{1}{2} \text{ yr} = \frac{3}{2} \text{ year}, R = 10\% \text{ p.a}$$

$$\begin{aligned}
 A &= P \left(1 + \frac{R}{200} \right)^{2n} \\
 &= 8000 \left(1 + \frac{10}{200} \right)^{2 \times \frac{3}{2}} \\
 &= 8000 \left(1 + \frac{1}{20} \right)^3 = 8000 \left(\frac{21}{20} \right)^3 \\
 &= 8000 \times \frac{9261}{8000} = \text{Rs } 9261
 \end{aligned}$$

$$\begin{aligned}
 \therefore \text{CI} &= A - P \\
 &= \text{Rs } 9261 - \text{Rs } 8000 \\
 &= \text{Rs } 1261
 \end{aligned}$$

Q9. Kamal borrowed Rs 57600 from LIC against her policy at $12\frac{1}{2}\%$ p.a to build a house. Find the amount that she pays to the LIC after $1\frac{1}{2}$ years if the interest is calculated half yearly. (19)

Sol! $P = \text{Rs } 57600$, $R = 12\frac{1}{2}\% = \frac{25}{2}\%$, $T = 1\frac{1}{2} \text{ year}$
 $= \frac{3}{2} \text{ year}$

By using formula

$$\begin{aligned} A &= P \left(1 + \frac{R}{200}\right)^{2n} = 57600 \left(1 + \frac{25}{400}\right)^{2 \times \frac{3}{2}} \\ &= 57600 \left(1 + \frac{1}{16}\right)^3 \\ &= 57600 \left(\frac{17}{16}\right)^3 = 57600 \times \frac{17}{16} \times \frac{17}{16} \times \frac{17}{16} \\ &= \text{Rs } 69089.06 \end{aligned}$$

Q10 Abha purchased a house from Aras partshed on credit. If the cost of the house is Rs 64000 and the rate of interest is 5% p.a compounded half yearly, find the interest paid by Abha after one year and a half.

Sol! $P = 64000$, $R = 5\%$ p.a, $T = 1\frac{1}{2} \text{ yr} = \frac{3}{2} \text{ yr}$.

$$\begin{aligned} A &= P \left(1 + \frac{R}{200}\right)^{2n} \\ &= 64000 \left(1 + \frac{5}{200}\right)^{2 \times \frac{3}{2}} \end{aligned}$$

$$= 64000 \left(1 + \frac{1}{40}\right)^3 = 64000 \times \left(\frac{41}{40}\right)^3$$

$$= 64000 \times \frac{68921}{64000} = \text{Rs } 68921$$

$$\therefore \text{CI} = A - P$$

$$= \text{Rs } 68921 - \text{Rs } 64000$$

$$= \text{Rs } 4921$$

Q.11 Rakesh lent out Rs 10000 for 2 years at 20% p.a, compounded annually. How much more he could earn if the interest is compounded half yearly.

Sol: here $P = \text{Rs } 10000$, $T = 2 \text{ yrs}$, $R = 20\%$.

Amount at the end of 2 yrs if compounded annually.

$$A = P \left(1 + \frac{R}{100}\right)^n$$

$$= 10000 \left(1 + \frac{20}{100}\right)^2 = 10000 \left(1 + \frac{1}{5}\right)^2$$

$$= 10000 \times \left(\frac{6}{5}\right)^2$$

$$= 10000 \times \frac{36}{25}$$

$$= 400 \times 36 = 14400$$

Compounded half yearly

$$A = P \left(1 + \frac{R}{200}\right)^{2n}$$

$$= 10000 \left(1 + \frac{20}{200}\right)^{2 \times 2} = 10000 \left(\frac{11}{10}\right)^4$$

$$= 10000 \times \frac{11 \times 11 \times 11 \times 11}{10000}$$

$$= 11 \times 11 \times 11 \times 11$$

$$= 14641$$

More Amount he could earn = Rs 14641 - Rs 14400

$$= \text{Rs } 241$$

Q.12 Romesh borrowed a sum of Rs 245760 at 12.5% p.a, compounded annually. On the same day he lent out his money to Ramu at the same rate of interest, but compounded semiannually. Find his gain after 2 years.

Solution: $P = \text{Rs } 245760$, $R = 12.5\% \text{ p.a}$, $T = 2 \text{ yrs.}$

Compounded annually

$$A = P \left(1 + \frac{R}{100} \right)^n$$

$$= 245760 \left(1 + \frac{12.5}{100} \right)^2 = 245760 \left(1 + \frac{12.5}{1000} \right)^2$$

$$= 245760 \left(1 + \frac{1}{8} \right)^2$$

$$= 245760 \left(\frac{9}{8} \right)^2$$

$$= 245760 \times \frac{81}{64}$$

$$= 311040$$

Compounded semiannually

$$A = P \left(1 + \frac{R}{200} \right)^{2n}$$

$$A = 245760 \left(1 + \frac{12.5}{200}\right)^{2 \times 2}$$

$$= 245760 \left(1 + \frac{1}{16}\right)^4 = 245760 \left(\frac{17}{16}\right)^4$$

$$= 245760 \times \frac{17}{16} \times \frac{17}{16} \times \frac{17}{16} \times \frac{17}{16}$$

$$= 313203.75$$

$$\text{Gain} = \text{Rs } 313203.75 - 311040$$

$$= \text{Rs } 2163.75$$

Q.13 Find the amount that David would receive if he invests Rs 8192 for 18 months at $12\frac{1}{2}\%$ p.a, the interest being compounded half yearly.

Sol! $P = \text{Rs } 8192$, $T = 18 \text{ months} = \frac{3}{2} \text{ yrs}$, $R = 12\frac{1}{2}\% = \frac{25}{2}\%$

when compounded half yearly,

$$\text{Amount} = P \left(1 + \frac{R}{200}\right)^{2n}$$

$$= 8192 \left(1 + \frac{25}{2 \times 200}\right)^{2 \times \frac{3}{2}}$$

$$= 8192 \left(1 + \frac{1}{16}\right)^3 = 8192 \left(\frac{16+1}{16}\right)^3$$

$$= 8192 \times \frac{17}{16} \times \frac{17}{16} \times \frac{17}{16} = \text{Rs } 9826$$

Q.14 Find the Compound Interest on Rs 15625 for 9 months at 16% p.a, compounded quarterly.

Sol: $P = \text{Rs } 15625$, $T = 9 \text{ months} = \frac{9}{12} \text{ year}$
 $= \frac{3}{4} \text{ year}$

$R = 16\%$

Compounded quarterly

$$\begin{aligned} A &= P \left(1 + \frac{R}{400} \right)^{4n} \\ &= 15625 \left(1 + \frac{16}{400} \right)^{4 \times \frac{3}{4}} \\ &= 15625 \left(1 + \frac{1}{25} \right)^3 \\ &= 15625 \times \left(\frac{26}{25} \right)^3 = 15625 \times \frac{26 \times 26 \times 26}{25 \times 25 \times 25} \\ &= \text{Rs } 17576 \end{aligned}$$

Q.15 Rekha deposited Rs 16000 in a foreign bank which pays interest at the rate of 20% p.a

Compounded Quarterly. Find the interest received by Rekha after one hour

Sol: $P = \text{Rs } 16000$, $R = 20\% \text{ p.a}$, $T = 1 \text{ year}$

$$A = P \left(1 + \frac{R}{400} \right)^{4n} = 16000 \left(1 + \frac{20}{400} \right)^{4 \times 1}$$

$$\begin{aligned}
 &= 16000 \left(1 + \frac{1}{20}\right)^4 = 16000 \left(\frac{21}{20}\right)^4 \\
 &= 16000 \times \frac{441 \times 441}{400 \times 400} \\
 &= \text{Rs } 19448.10
 \end{aligned}$$

$$\begin{aligned}
 \therefore \text{C.I.} &= A - P \\
 &= 19448.10 - 16000 \\
 &= \text{Rs } 3448.10
 \end{aligned}$$

Q.16 Find the amount of Rs 12500 for 2 years Compounded annually, the rate of interest being 15% for the first year and 16% for the second year.

Sol: here, $P = \text{Rs } 12500$, $T = 2 \text{ yrs}$, $R_1 = 15\%$, $R_2 = 16\%$.

$$\begin{aligned}
 A &= P \left(1 + \frac{R_1}{100}\right) \left(1 + \frac{R_2}{100}\right) \\
 &= 12500 \left(1 + \frac{15}{100}\right) \left(1 + \frac{16}{100}\right) \\
 &= 12500 \left(1 + \frac{3}{20}\right) \left(1 + \frac{4}{25}\right) = 12500 \times \frac{23}{20} \times \frac{29}{25} \\
 &= 25 \times 23 \times 29 \\
 &= \text{Rs } 16675
 \end{aligned}$$

Q.17 Ramu borrowed Rs 15625 from a finance company to buy a scooter. If The rate of interest be 16% p.a compounded annually, what payment will he have to make after $2\frac{1}{4}$ year.

Sol: here $P = \text{Rs } 15625$, $R = 16\% \text{ p.a}$
 $T = 2\frac{1}{4} \text{ year.}$

Amount at the end of 2 year

$$\begin{aligned} A &= P \left(1 + \frac{R}{100}\right)^2 \\ &= 15625 \left(1 + \frac{16}{100}\right)^2 = 15625 \left(1 + \frac{4}{25}\right)^2 \\ &= 15625 \times \left(\frac{29}{25}\right)^2 = 15625 \times \frac{841}{625} \\ &= \text{Rs } 21025 \end{aligned}$$

Now $P = \text{Rs } 21025$, $T = \frac{1}{4} \text{ year}$, $R = 16\%$.

$$\begin{aligned} \text{S.I} &= \frac{P \times R \times T}{100} = \frac{21025 \times 16 \times \frac{1}{4}}{100} = \frac{21025 \times 4}{100} \\ &= \text{Rs } 841 \end{aligned}$$

$$\begin{aligned} \therefore \text{Total Amount} &= \text{Rs } 21025 + \text{Rs } 841 \\ &= \text{Rs } 21866 \end{aligned}$$

Q.18 What will Rs 125000 amount to at the rate of 6%, If the Interest is calculated after every four months?

Sol: $P = \text{Rs } 125000$, $R = 6\% \text{ p.a.}$, $T = 1 \text{ year}$

$\therefore$ Interest is calculated after every 4 months.

$$\begin{aligned}
 A &= P \left(1 + \frac{R}{300}\right)^{3n} \\
 &= 125000 \left(1 + \frac{6}{300}\right)^{3 \times 1} = 125000 \left(1 + \frac{1}{50}\right)^3 \\
 &= 125000 \left(\frac{51}{50}\right)^3 \\
 &= 125000 \times \frac{51 \times 51 \times 51}{50 \times 50 \times 50} \\
 &= 132651
 \end{aligned}$$

Q.19 Find the Compound Interest at the rate of 5% for three years on that principal which in three years at the rate of 5% p.a gives Rs 12000 as simple interest.

Sol: $S.I = \text{Rs } 12000$, $R = 5\%$, $T = 3 \text{ years.}$

$$\begin{aligned}
 P &= \frac{SI \times 100}{R \times T} = \frac{12000 \times 100}{5 \times 3} \\
 &= 80000
 \end{aligned}$$

Now $P = 80000$, $R = 5\%$, $T = 3 \text{ years}$

$$\begin{aligned}
 A &= P \left(1 + \frac{R}{100} \right)^n \\
 &= 80000 \left(1 + \frac{5}{100} \right)^3 \\
 &= 80000 \left(1 + \frac{1}{20} \right)^3 = 80000 \left(\frac{21}{20} \right)^3 \\
 &= 80000 \times \frac{9261}{8000} \\
 &= \text{Rs } 92610
 \end{aligned}$$

$$\begin{aligned}
 \therefore CI &= A - P \\
 &= 92610 - 80000 \\
 &= \text{Rs } 12610
 \end{aligned}$$

Q.20 A sum of money was lent for 2 years at 20%. Compounded annually. If the interest is payable half yearly instead of yearly, then the interest is Rs 482 more. Find the Sum.

Sol: Amount borrowed = P , $R = 20\%$, $T = 2 \text{ yrs.}$

Compounded Annually:

$$\begin{aligned}
 A &= P \left(1 + \frac{R}{100} \right)^n \\
 &= P \left(1 + \frac{20}{100} \right)^2 = P \left(1 + \frac{1}{5} \right)^2 \\
 &= P \left(\frac{6}{5} \right)^2 = \frac{36}{25} P
 \end{aligned}$$

Compounded Semiannually.

$$A = P \left(1 + \frac{R}{200} \right)^{2n}$$

$$= P \left(1 + \frac{20}{200} \right)^{2 \times 2}$$

$$= P \left(1 + \frac{1}{10} \right)^4 = P \left(\frac{11}{10} \right)^4 = \frac{14641}{10000} P$$

$$\therefore \frac{14641}{10000} P - \frac{36}{25} P = 482$$

$$\Rightarrow \frac{14641P - 14400P}{10000} = 482$$

$$\Rightarrow \frac{241P}{10000} = 482$$

$$\Rightarrow P = \frac{482 \times 10000}{241} \\ = 20000$$

$\therefore$ Sum of Money borrowed = Rs 20000

- (21) Simple Interest on a sum of money for 2 years at $6\frac{1}{2}\%$ p.a is Rs 5200. What will be the compound interest on the sum at the same rate for the same period?

Sol! S.I = Rs 5200 , T = 2 years , R = $6\frac{1}{2}\%$.
= $\frac{13}{2}\%$.

$$\therefore P = \frac{SI \times 100}{R \times T}$$
$$= \frac{5200 \times 100}{2 \times \frac{13}{2}} = 40000$$

Now, if compounded annually

$$\begin{aligned} A &= P \left(1 + \frac{R}{100} \right)^n \\ &= 40000 \left(1 + \frac{13}{200} \right)^2 \\ &= 40000 \left(\frac{213}{200} \right)^2 = 40000 \times \frac{213 \times 213}{200 \times 200} \\ &= 45369 \end{aligned}$$

Now, $CI = A - P$
 $= 45369 - 40000 = \text{Rs } 5369$

Q. 22. Find the Compound Interest at the rate of 5% p.a for 3 years on that principal which in 3 years at the rate of 5% p.a gives Rs 1200 as simple interest.

Sol: S.I = Rs 1200, R = 5% p.a, T = 3 years.

$$P = \frac{SI \times 100}{R \times T} = \frac{1200 \times 100}{5 \times 3} \\ = 8000$$

Now, P = Rs 8000, R = 5% p.a, T = 3 year.

If compounded annually.

$$A = P \left(1 + \frac{R}{100} \right)^n \\ = 8000 \left(1 + \frac{5}{100} \right)^3 = 8000 \left(1 + \frac{1}{20} \right)^3 \\ = 8000 \left(\frac{21}{20} \right)^3 = 8000 \times \frac{9261}{8000} \\ = Rs. 9261$$

$$\text{Now, CI} = A - P \\ = Rs 9261 - Rs 8000 \\ = Rs 1261$$