Compound Interest Ex 14.1 Q1

Answer :

$\text{Principal for the first year} = \text{Rs } 3,000$

$\text{Interest for the first year} = \text{Rs}\left(\frac{3,000 \times 5 \times 1}{100}\right)$

$= \text{Rs } 150$

$\text{Amount at the end of the first year} = \text{Rs } 3,000 + \text{Rs } 150$

$= \text{Rs } 3,150$

$\text{Principal for the second year} = \text{Rs } 3,150$

$\text{Interest for the second year} = \text{Rs}\left(\frac{3,150 \times 5 \times 1}{100}\right)$

$= \text{Rs } 157.50$

$\text{Amount at the end of the second year} = \text{Rs } 3,150 + \text{Rs } 157.50$

$= \text{Rs } 3307.50$

$\therefore \text{ Compound interest} = \text{Rs}(3,307.50 - 3,000)$

$= \text{Rs } 307.50$

Compound Interest Ex 14.1 Q2

Answer :

We know that amount A at the end of n years at the rate of R% per annum is given by $A = P\left(1 + \frac{R}{100}\right)^n$.

Given :

$P = \text{Rs } 4,000$

$R = 5\%$ p.a.

$n = 2$ years

Now,

$A = 4,000\left(1 + \frac{5}{100}\right)^2$

$= 4,000(1.05)^2$

$= \text{Rs } 4,410$

And,

$CI = A - P$

$= \text{Rs } 4,410 - \text{Rs } 4,000$

$= \text{Rs } 410$

Compound Interest Ex 14.1 Q3

Answer :

We know that amount A at the end of n years at the rate of R% per annum is given by $A = P\left(1 + \frac{R}{100}\right)^n$.

Given :

$P = \text{Rs } 8,000$

$R = 15\%$ p.a.

$n = 3$ years

Now,

$A = 8,000\left(1 + \frac{15}{100}\right)^3$

$= 8,000(1.15)^3$

$= \text{Rs } 12,167$

And,

$CI = A - P$

$= \text{Rs } 12,167 - \text{Rs } 8,000$

$= \text{Rs } 4,167$

********** END **********