



Compound Interest Ex 14.1 Q1

Answer :

Principal for the first year = Rs 3,000

$$\begin{aligned}\text{Interest for the first year} &= \text{Rs} \left(\frac{3,000 \times 5 \times 1}{100} \right) \\ &= \text{Rs } 150\end{aligned}$$

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

Principal for the second year = Rs 3,150

$$\begin{aligned}\text{Interest for the second year} &= \text{Rs} \left(\frac{3,150 \times 5 \times 1}{100} \right) \\ &= \text{Rs } 157.50\end{aligned}$$

$$\begin{aligned}\text{Amount at the end of the second year} &= \text{Rs } 3,150 + \text{Rs } 157.50 \\ &= \text{Rs } 3307.50\end{aligned}$$

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

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 :

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

$$R = 5\% \text{ p.a.}$$

$$n = 2 \text{ years}$$

Now,

$$\begin{aligned}A &= 4,000 \left(1 + \frac{5}{100} \right)^2 \\ &= 4,000(1.05)^2 \\ &= \text{Rs } 4,410\end{aligned}$$

And,

$$\begin{aligned}CI &= A - P \\ &= \text{Rs } 4,410 - \text{Rs } 4,000 \\ &= \text{Rs } 410\end{aligned}$$

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 :

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

$$R = 15\% \text{ p.a.}$$

$$n = 3 \text{ years}$$

Now,

$$\begin{aligned}A &= 8,000 \left(1 + \frac{15}{100} \right)^3 \\ &= 8,000(1.15)^3 \\ &= \text{Rs } 12,167\end{aligned}$$

And,

$$\begin{aligned}CI &= A - P \\ &= \text{Rs } 12,167 - \text{Rs } 8,000 \\ &= \text{Rs } 4,167\end{aligned}$$

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