



Compound Interest Ex 14.2 Q1

Answer :

Applying the rule $A = P\left(1 + \frac{R}{100}\right)^n$ on the given situations, we get :

(i)

$$A = 3,000\left(1 + \frac{5}{100}\right)^2$$

$$= 3,000(1.05)^2$$

$$= \text{Rs } 3,307.50$$

Now,

$$CI = A - P$$

$$= \text{Rs } 3,307.50 - \text{Rs } 3,000$$

$$= \text{Rs } 307.50$$

(ii)

$$A = 3,000\left(1 + \frac{18}{100}\right)^2$$

$$= 3,000(1.18)^2$$

$$= \text{Rs } 4,177.20$$

Now,

$$CI = A - P$$

$$= \text{Rs } 4,177.20 - \text{Rs } 3,000$$

$$= \text{Rs } 1,177.20$$

(iii)

$$\begin{aligned}A &= 5,000\left(1 + \frac{10}{100}\right)^2 \\&= 5,000(1.10)^2 \\&= \text{Rs } 6,050\end{aligned}$$

Now,

$$\begin{aligned}\text{CI} &= A - P \\&= \text{Rs } 6,050 - \text{Rs } 5,000 \\&= \text{Rs } 1,050\end{aligned}$$

(iv)

$$\begin{aligned}A &= 2,000\left(1 + \frac{4}{100}\right)^3 \\&= 2,000(1.04)^3 \\&= \text{Rs } 2,249.68\end{aligned}$$

Now,

$$\begin{aligned}\text{CI} &= A - P \\&= \text{Rs } 2,249.68 - \text{Rs } 2,000 \\&= \text{Rs } 249.68\end{aligned}$$

(v)

$$\begin{aligned}A &= 12,800 \left(1 + \frac{7.5}{100}\right)^3 \\&= 12,800(1.075)^3 \\&= \text{Rs } 15,901.40\end{aligned}$$

Now,

$$\begin{aligned}\text{CI} &= A - P \\&= \text{Rs } 15,901.40 - \text{Rs } 12,800 \\&= \text{Rs } 3,101.40\end{aligned}$$

(vi)

$$\begin{aligned}A &= 10,000 \left(1 + \frac{20}{200}\right)^4 \\&= 10,000(1.1)^4 \\&= \text{Rs } 14,641\end{aligned}$$

Now,

$$\begin{aligned}\text{CI} &= A - P \\&= \text{Rs } 14,641 - \text{Rs } 10,000 \\&= \text{Rs } 4,641\end{aligned}$$

(vii)

$$A = 16,000 \left(1 + \frac{10}{200} \right)^4$$

$$= 16,000(1.05)^4$$

$$= \text{Rs } 19,448.1$$

Now,

$$CI = A - P$$

$$= \text{Rs } 19,448.1 - \text{Rs } 16,000$$

$$= \text{Rs } 3,448.1$$

***** END *****