



Compound Interest Ex 14.2 Q17

Answer :

Given :

$$P = \text{Rs } 15,625$$

$$R = 16\% \text{ p.a.}$$

$$n = 2\frac{1}{4} \text{ years}$$

$$\therefore \text{Amount after } 2\frac{1}{4} \text{ years} = P \left(1 + \frac{R}{100}\right)^2 \left(1 + \frac{\frac{1}{4}(R)}{100}\right)$$

$$= \text{Rs } 15,625 \left(1 + \frac{16}{100}\right)^2 \left(1 + \frac{\frac{16}{4}}{100}\right)$$

$$= \text{Rs } 15,625(1.16)^2(1.04)$$

$$= \text{Rs } 21,866$$

Thus, the required amount is Rs 21,866.

Compound Interest Ex 14.2 Q18

Answer :

Because interest is calculated after every 3 months, it is compounded quarterly.

Given :

$$P = \text{Rs } 125,000$$

$$R = 6\% \text{ p.a.} = \frac{6}{4}\% \text{ quarterly} = 1.5\% \text{ quarterly}$$

$$n = 4$$

So,

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

$$= 125,000 \left(1 + \frac{1.5}{100}\right)^4$$

$$= 125,000(1.015)^4$$

$$= 132,670 \text{ (approx)}$$

Thus, the required amount is Rs 132,670.

Compound Interest Ex 14.2 Q19

Answer :

$$P = \frac{SI \times 100}{RT}$$

According to the given values, we have :

$$= \frac{12,000 \times 100}{5 \times 3}$$

$$= 80,000$$

The principal is to be compounded annually.

So,

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

$$= 80,000 \left(1 + \frac{5}{100} \right)^3$$

$$= 80,000 (1.05)^3$$

$$= 92,610$$

Now,

$$CI = A - P$$

$$= 92,610 - 80,000$$

$$= 12,610$$

Thus, the required compound interest is Rs 12,610.

***** END *****