



Compound Interest Ex 14.2 Q20

Answer :

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

Also,

$$P = A - CI$$

Let the sum of money be Rs x.

If the interest is compounded annually, then :

$$A_1 = x \left(1 + \frac{20}{100} \right)^2$$

$$= 1.44x$$

$$\therefore CI = 1.44x - x$$

$$= 0.44x \quad \dots (1)$$

If the interest is compounded half – yearly, then :

$$A_2 = x \left(1 + \frac{10}{100} \right)^4$$

$$= 1.4641x$$

$$\therefore CI = 1.4641x - x$$

$$= 0.4641x \quad \dots (2)$$

It is given that if interest is compounded half – yearly, then it will be Rs 482 more.

$$\therefore 0.4641x = 0.44x + 482 \quad \left[\text{From } (1) \text{ and } (2) \right]$$

Compound Interest Ex 14.2 Q21

Answer :

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

$$\therefore P = \frac{5,200 \times 100}{6.5 \times 2}$$

$$= 40,000$$

Now,

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

$$= 40,000 \left(1 + \frac{6.5}{100} \right)^2$$

$$= 40,000 (1.065)^2$$

$$= 45,369$$

Also,

$$CI = A - P$$

$$= 45,369 - 40,000$$

$$= 5,369$$

Thus, the required compound interest is Rs 5,369.

Compound Interest Ex 14.2 Q22

***** END *****

