Compound Interest Ex 14.1 Q9

Answer :

$$\mathrm{P} = \mathrm{Rs}\ 8,000$$
$$\mathrm{T} = 9\ \mathrm{months} = 3\ \mathrm{quarters}$$
$$\mathrm{R} = 20\%\ \mathrm{per\ annum} = 5\%\ \mathrm{per\ quarter}$$
$$\mathrm{A} = 8,000\left(1 + \frac{5}{100}\right)^3$$
$$= 8,000(1.05)^3$$
$$= 9,261$$
$$\mathrm{The\ required\ amount\ is\ Rs}\ 9,261.$$
$$\mathrm{Now,}$$
$$\mathrm{CI} = \mathrm{A} - \mathrm{P}$$
$$= \mathrm{Rs}\ 9,261 - \mathrm{Rs}\ 8,000$$
$$= \mathrm{Rs}\ 1,261$$

Compound Interest Ex 14.1 Q10

Answer :

$$\mathrm{SI} = \frac{\mathrm{PRT}}{100}$$

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

$$= \frac{200 \times 100}{10 \times 2}$$

$$= \mathrm{Rs}\ 1,000$$

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

$$= 1,000\left(1 + \frac{10}{100}\right)^{2}$$

$$= 1,000(1.10)^{2}$$

$$= \mathrm{Rs}\ 1,210$$

$$\mathrm{Now},$$

$$\mathrm{CI} = \mathrm{A} - \mathrm{P}$$

$$= \mathrm{Rs}\ 1,210 - \mathrm{R}s\ 1,000$$

$$= \mathrm{Rs}\ 210$$

Compound Interest Ex 14.1 Q11

Answer :

To calculate the interest compounded quarterly, we have :

$$A = P\left(1 + \frac{R}{400}\right)^{4n}$$

$$= 64,000\left(1 + \frac{10}{400}\right)^{4\times1}$$

$$= 64,000(1.025)^4$$

$$= 70,644.03$$

Thus, the required amount is Rs $70,644.03$.

Now,

$$CI = A - P$$

$$= \text{Rs } 70,644.025 - \text{Rs } 64,000$$

$$= \text{Rs } 6,644.03$$

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