Compound Interest Ex 14.2 Q17

**Answer :**

Given :

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

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

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

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

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

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

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

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 :

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

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

$\mathrm{n} = 4$

So,

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

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

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

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

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 **********