Compound Interest Ex 14.2 Q14

Answer :

Given :

$P = Rs\ 15,625$

$R = 16\% = \frac{16}{4} = 4\%$ quarterly

$n = 9$ months $= 3$ quarters

We know that :

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

$$= Rs\ 15,625\left(1 + \frac{4}{100}\right)^3$$

$$= Rs\ 15,625(1.04)^3$$

$$= Rs\ 17,576$$

Also,

$$CI = A - P$$

$$= Rs\ 17,576 - Rs\ 15,625$$

$$= Rs\ 1,951$$

Thus, the required compound interest is Rs $1,951$.

Compound Interest Ex 14.2 Q15

Answer :

Given :

$P = Rs\ 16,000$

$R = 20\%$ p.a.

$n = 1$ year

We know that :

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

When compounded quarterly, we have :

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

$$= Rs\ 16,000\left(1 + \frac{20}{400}\right)^4$$

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

$$= Rs\ 19,448.10$$

Also,

$$CI = A - P$$

$$= Rs\ 19,448.1 - Rs\ 16,000$$

$$= Rs\ 3,448.10$$

Thus, the interest received by Rekha after one year is Rs $3,448.10$.

Compound Interest Ex 14.2 Q16

Answer :

Given :

$P = \text{Rs } 12,500$

$R_1 = 15\%$ p.a.

$R_2 = 16\%$ p.a.

$\therefore$ Amount after two years $= P\left(1 + \frac{R_1}{100}\right)\left(1 + \frac{R_2}{100}\right)$

$= \text{Rs } 12,500\left(1 + \frac{15}{100}\right)\left(1 + \frac{16}{100}\right)$

$= \text{Rs } 12,500(1.15)(1.16)$

$= \text{Rs } 16,675$

Thus, the required amount is Rs $16,675$.

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