Compound Interest Ex 14.4 Q15

Answer :

(i)

$\text{Population of the city in } 2001 = P\left(1+\frac{R}{100}\right)^2$

$= 6760000\left(1+\frac{4}{100}\right)^2$

$= 6760000(1.04)^2$

$= 7311616$

$\text{Thus, Population of the city in } 2001 \text{ is } 7311616.$

(ii)

$\text{Population of the city in } 1997 = P\left(1+\frac{R}{100}\right)^{-2}$

$= 6760000\left(1+\frac{4}{100}\right)^{-2}$

$= 6760000(1.04)^{-2}$

$= 6250000$

$\text{Thus, Population of the city in } 1997 \text{ is } 6250000.$

Compound Interest Ex 14.4 Q16

Answer :

$\text{Profit at the end of the first year} = \text{P}\left(1+\frac{\text{R}}{100}\right)$

$= 2,500,000\left(1+\frac{5}{100}\right)$

$= 2,500,000(1.05)$

$= 2,625,000$

$\text{Profit at the end of the second year} = \text{P}\left(1+\frac{\text{R}}{100}\right)$

$= 2,625,000\left(1+\frac{10}{100}\right)$

$= 2,625,000(1.10)$

$= 2,887,500$

$\text{Total profit} = \text{Rs } 2,887,500 - \text{Rs } 2,500,000$

$= \text{Rs } 387,500$

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