



Compound Interest Ex 14.4 Q15

**Answer :**

(i)

$$\begin{aligned}\text{Population of the city in 2001} &= P\left(1 + \frac{R}{100}\right)^2 \\ &= 6760000\left(1 + \frac{4}{100}\right)^2 \\ &= 6760000(1.04)^2 \\ &= 7311616\end{aligned}$$

Thus, Population of the city in 2001 is 7311616.

(ii)

$$\begin{aligned}\text{Population of the city in 1997} &= P\left(1 + \frac{R}{100}\right)^{-2} \\ &= 6760000\left(1 + \frac{4}{100}\right)^{-2} \\ &= 6760000(1.04)^{-2} \\ &= 6250000\end{aligned}$$

Thus, Population of the city in 1997 is 6250000.

Compound Interest Ex 14.4 Q16

**Answer :**

$$\begin{aligned}\text{Profit at the end of the first year} &= P\left(1 + \frac{R}{100}\right) \\ &= 2,500,000\left(1 + \frac{5}{100}\right) \\ &= 2,500,000(1.05) \\ &= 2,625,000\end{aligned}$$
$$\begin{aligned}\text{Profit at the end of the second year} &= P\left(1 + \frac{R}{100}\right) \\ &= 2,625,000\left(1 + \frac{10}{100}\right) \\ &= 2,625,000(1.10) \\ &= 2,887,500\end{aligned}$$
$$\begin{aligned}\text{Total profit} &= \text{Rs } 2,887,500 - \text{Rs } 2,500,000 \\ &= \text{Rs } 387,500\end{aligned}$$

\*\*\*\*\* END \*\*\*\*\*

