

$$\text{Simple Interest} = \frac{PNR}{100}$$

$$\text{Compound Interest} = P \left(1 + \frac{R}{100}\right)^N - P$$

Now,

$$P \left(1 + \frac{R}{100}\right)^N - P - \frac{PNR}{100} = 64$$

$$\left[10000 \times \left(1 + \frac{R}{100}\right)^2 - 10000\right] - \left(\frac{10000 \times R \times 2}{100}\right) = 64$$

$$\Rightarrow 10000 \left[\left(1 + \frac{R}{100}\right)^2 - 1 - \frac{2R}{100} \right] = 64$$

$$\Rightarrow 10000 \left[\frac{(100 + R)^2}{10000} - 1 - \frac{2R}{100} \right] = 64$$

$$\Rightarrow 10000 \left[\frac{10000 + 200R + R^2 - 10000 - 200R}{10000} \right] = 64$$

$$\Rightarrow R^2 = 64$$

$$\Rightarrow R = 8$$

\therefore Rate = 8%