4) The compound interest on ₹30000 at 7% per annum is ₹4347. What is the time period?

Sol. ~~Principal = 7%~~ Amount = Principal + CI

Amount = 30000 + 4347 = ₹34347

Let the time be T years then $34347 = 30000\left(1+\frac{7}{100}\right)^T \Rightarrow 34347 = 30000\left(\frac{107}{100}\right)^T$

$\Rightarrow \left(\frac{107}{100}\right)^T = \frac{34347}{30000} \Rightarrow \left(\frac{107}{100}\right)^T = \frac{11449}{10000} \Rightarrow \left(\frac{107}{100}\right)^T = \left(\frac{107}{100}\right)^2$

$\therefore T = 2$ years