Electron is moving in large inward magnetic field with speed 4 m/s and complete 2 revolution per sec if speed is increased to 8 m/s then revolutions will be...

Solution

In large inward magnetic field electron is moving on a circle. For movement on a circle

$v = \omega R.$

Then

$$v_1 = \omega_1 R \; and \; v_2 = \omega_2 R \rightarrow \omega_2 = \frac{\omega_1 \, v_2}{v_1} = \frac{2 * 8}{4} = 4 \text{ revolution per sec}$$

Answer: 4 revolution per sec.