

1.12 An oscillator that generates a sinusoidal wave on a string completes 40 vibrations in 50 s. The wave peak is observed to travel a distance of 1.4 m along the string in 5 s. What is the wavelength?

Solution:

$$T = \frac{50}{40} = 1.25 \text{ s}, \quad u_p = \frac{1.4}{5} = 0.28 \text{ m/s},$$
$$\lambda = u_p T = 0.28 \times 1.25 = 0.35 \text{ m}.$$
