KEC

K Education Centre

AS Waves -2

Waves Phenomena -2

Assignment Questions

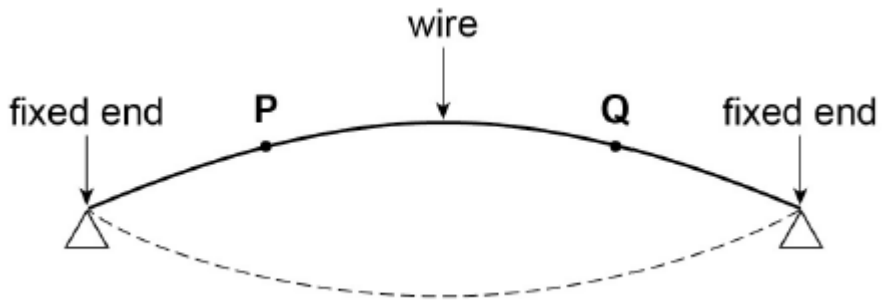
Waves Phenomena -2 :

(Refer to insert (available on website downloads) for the formulas)

Q1 :What is the phase difference between two points 0.16 m apart on a progressive sound wave of frequency 256 Hz? (speed of sound = 330 m/s)

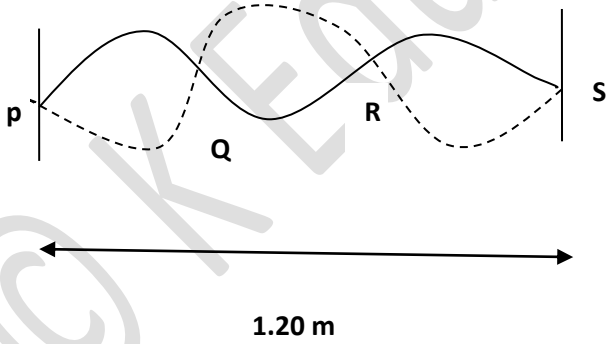
Q 2: The frequency of the first harmonic of a standing wave on a wire is f. The length of the wire and tension in the wire are both doubled. What is the frequency of the first harmonic as a result?

Q3 : A uniform wire, fixed at both ends, is plucked in the middle so that it vibrates at the first harmonic as shown.



What is the phase difference between the oscillations of the particles at P and Q?

Q4 : State the wavelength of the waves on a string as shown in figure below , if the speed of wave is 200 m/s. The length of the string is 1.20 m and calculate the frequency of the vibration. P and S are the fixed ends of string and Q and R the position of nodes.



Q5 : The fundamental frequency (first harmonic) of vibration of stretched string is 400 Hz. If the speed of the progressive wave on the wire is 300 m/s. Find the length of the string.