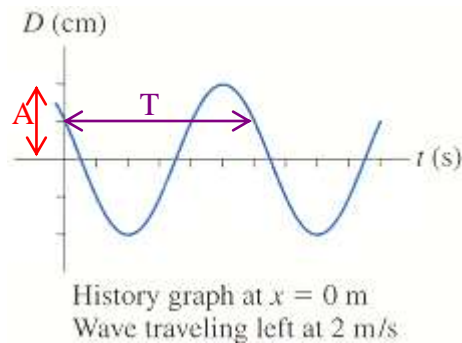Q- The graph bellow represents a travelling wave. Each interval on the vertical axis corresponds to 5 cm, and each interval along the horizontal axis corresponds to 0.2 s. find the amplitude, time period, frequency and wavelength of the wave.

The amplitude is the maximum displacement from the equilibrium position and is equal to 2 interval = 2*5 cm = 10 cm

Amplitude 10 cm

The time period is the time in which the motion repeats itself and is equal to six interval = 6*0.2 s = 1.2 sec

The frequency is the inverse of time period and hence

n = 1/T = 1/1.2 = 0.833 Hz

Frequency 0.833 Hz

The wavelength is the distance covered by the wave in one time period and equal to

$$\lambda = c * T = (2m/s) * (1.2s) = 2.4m$$

Wavelength 2.4 m