CHAPTER -14

GENERAL WAVES PROPERTIES

<u>Waves</u>

Waves transfer energy between points, without transferring matter: When a wave travels between two points, no matter 'actually' travels with it: the points on the wave simply vibrate back and forth about fixed positions.

Characteristics of waves

• The **wavelength** of a wave is the distance from a point on one wave to the same point on the next wave. Usually this is measured from the top of one wave to the top of the next wave.

Wavelength is usually measured in **metres** (a distance).

- The **amplitude** of a wave is its height, measured from the middle of the wave to its top (or from the middle to its bottom).
- The **frequency** of a wave is the number of waves passing a point (or being created or received) every second it is helpful to think of it as being the **waves per second**. The units of frequency are **hertz (Hz)**.



Wave fronts are a useful way of picturing waves from above: Each wavefront is used to represent a single wave



Types of Waves

There are two types of waves

- \circ Transverse
- o Longitudinal

Transverse Waves

For a transverse wave, the points along the wave vibrate at 90 degrees to the direction in which the wave is moving (the direction of energy transfer).



Longitudinal Waves

• For a longitudinal wave, the points along the wave vibrate in the same direction that the wave is moving in.

