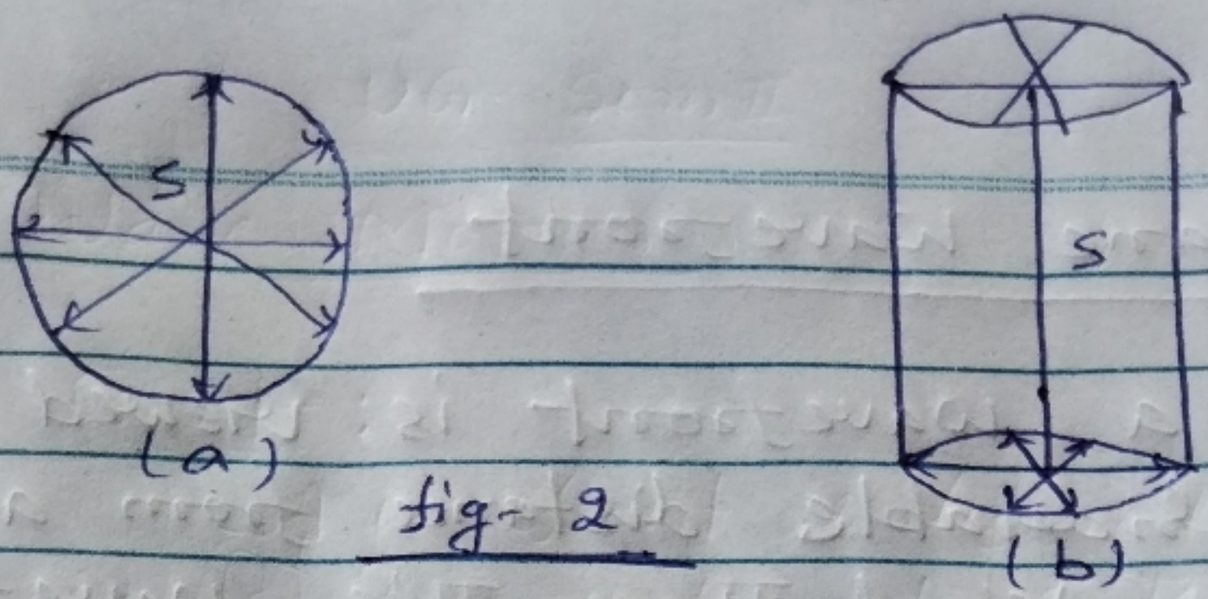

fig- 2

(2.) Cylindrical Wavefront :

A Cylinder Wave-front is obtained at that time when the light source is linear. The fig-2 depicts the Cylindrical wavefront where all the Points equidistant from the linear Source lie on the Cylinder's Surface.

The Cylindrical Wavefront looks like a Cylinder. Although, Concentric Circles like a Spherical wave front is obtained by drawing the Wavefront from one Plane.

Example :

When rays of light coming out of a lens fall on another lens. They Converge at a given Point. As they bend and Converge at a Point. it takes the form of a Cylinder.

There are three types of wavefronts which are based on Path followed by the Particles emanating from a Source.

These wavefronts are discussed below:

1.) Spherical wavefront:

If there is a Point Source which is in an isotropic medium and this sends waves in three dimensions then the wavefronts are spheres Centred on the Source as depicted in the fig. This type of wavefront is known as Spherical wavefront.

Example:

1.) In Vacuum electromagnetic waves forms a Spherical Wavefront.

2.) When a Stone is dropped in a water then Concentric circles are formed.

3.) An army Soldier Patrolling the oppo-Sition on the radar through the Camera Shows the attacker with the Spherical wave front Symbol.

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1.) Wave Motion

Wave Front :

A wavefront is defined as an imaginary surface that represents corresponding points of a wave which vibrate in unison.

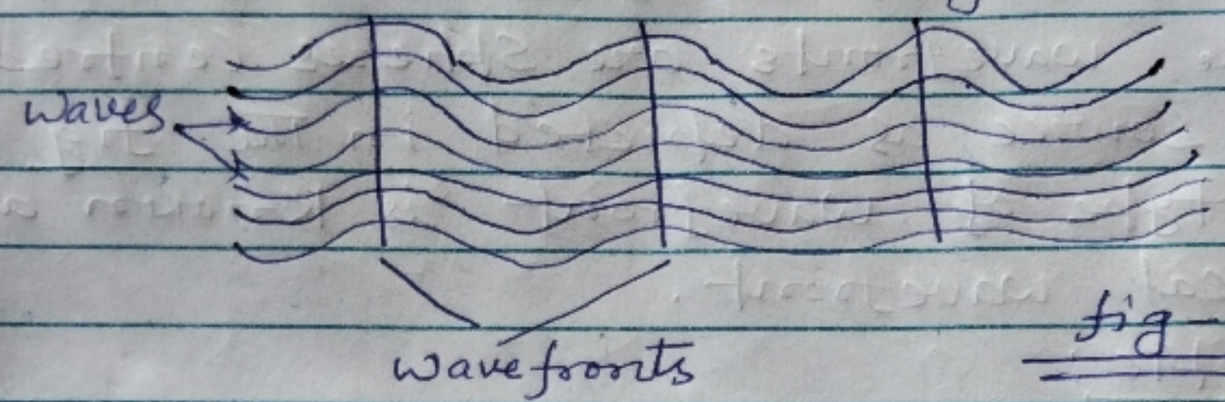

fig - 1

The set of all locations in a medium where the wave is at the same phase is known as wavefront. It is used to represent how waves are moving in 2 dimensions. The length between two lines on a wavefront is exactly one wavelength.

Wavefront types

The different types of wavefronts are obtained by the path followed by the particles emanating from a source.

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UG Sem II

MJC - 2

Wave Motion

(3) Plane Wavefront

When a wavefront is viewed from a considerable distance from a source of any kind Then this wavefront appears as a plane. This type of wavefront is known as plane wavefront.

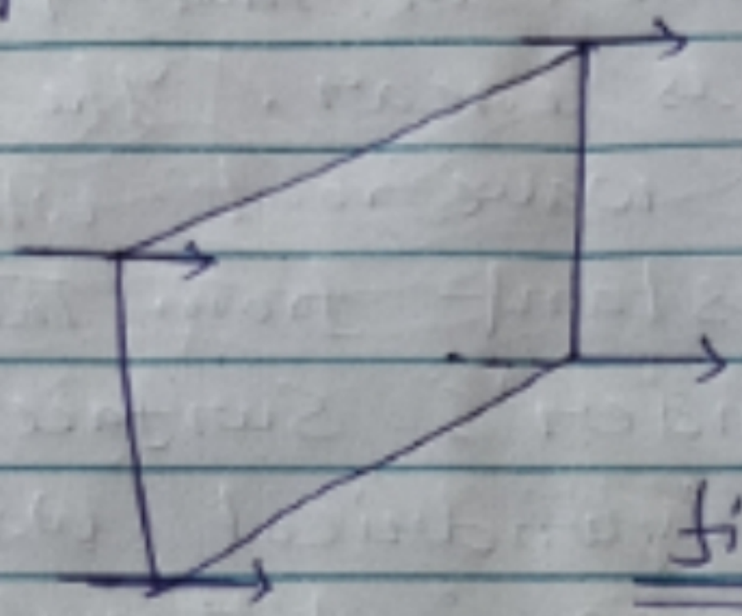

fig 1-3

When the small part of the spherical or cylindrical wavefront originates from a distant source Then a plane wave front is obtained, like infinity.

Example:

Such wavefronts are produced from a ~~dist~~ very distant source. For example, the plane wavefront is the rays coming out of the sun.