

LIGHT

1. Light is an electro-magnetic radiation, which gives rise to sensation of sight.

2. Light has the following properties: -
 - (i) We see objects, when light fall on it and is reflected to our eyes.
 - (ii) The speed of light is same when measured from any direction and is equal to 3×10^8 ms^{-1} in vacuum. The speed of all colours of light is equal.
 - (iii) White light consists of seven colours **VIOLET**, **INDIGO**, **BLUE**, **YELLOW**, **GREEN**, **ORANGE** and **RED** [**VIBGYOR**]. It's also called the spectrum of light.
 - (iv) The spectrum of light consists of infra-red, visible and ultra violet
 - (v) Astronomical distance between stars, galaxies or planets is measured in Light years. One light year is the distance travelled by Light in one year.
 - (vi) Light can travel in vacuum.
 - (vii) All electromagnetic radiations are not light.
 - (viii) The unit of light is called a photon.
 - (ix) Red light has the largest wave length among visible light. Therefore, it travels the longest. Traffic lights are red so that it can be visible for long distance.
 - (x) Edward Hubble noticed that the star light colour is slowly shifting towards the RED end of the spectrum. This led him to predict Universe is expanding.
 - (xi) Persons with colour blindness cannot detect certain colours of light.
 - (xii) The speed of light changes when it travels from one medium to a second medium. For example, from Air to water or from Air to Glass or from Water to Glass.
 - (xiii) Reflection, Refraction, Dispersion, Diffraction, Interference and Polarisation are some of the important phenomena exhibited by Light.
 - (xiv) Light travels in straight line.
 - (xv) Light can be both a particle and a wave. This is called duality of light and is the starting concept of Quantum Physics.

