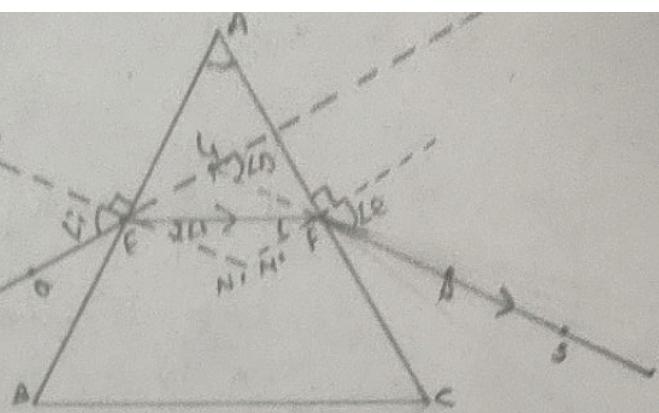


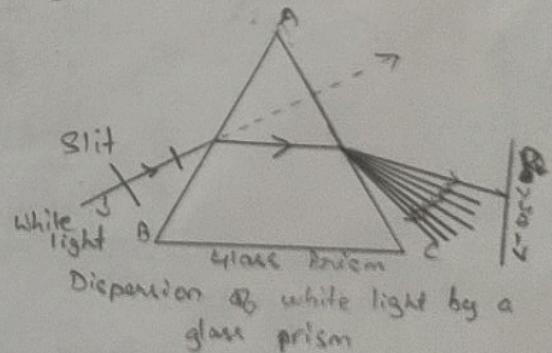
- PE - Incident Ray
 EF - Refracted Ray
 PC - Emergent Ray
 CA - Angle of Prism
 CI - Angle of Incidence
 CR - Angle of Refraction
 C2 - Angle of Emergence
 CD - Angle of Deviation.



REFRACTION OF LIGHT
THROUGH A TRIANGULAR
GLASS PRISM.

DISPERSION OF WHITE LIGHT BY A GLASS PRISM:

- Splitting of white light into its constituent colours, when it passes through a prism is called dispersion.
- Light splits into seven colours (VIBGYOR)
- Band of seven colours is known as spectrum.
- Isaac Newton was the first one to use a glass prism to obtain the spectrum of light.

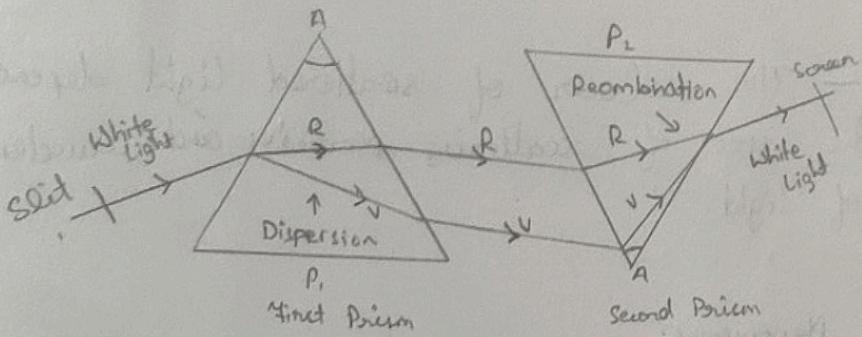


Cause of Dispersion:

- Red light has maximum wavelength
- Violet light has the least wavelength
- Wavelength or Velocity of Deviation
- Speed of light changes in different media.

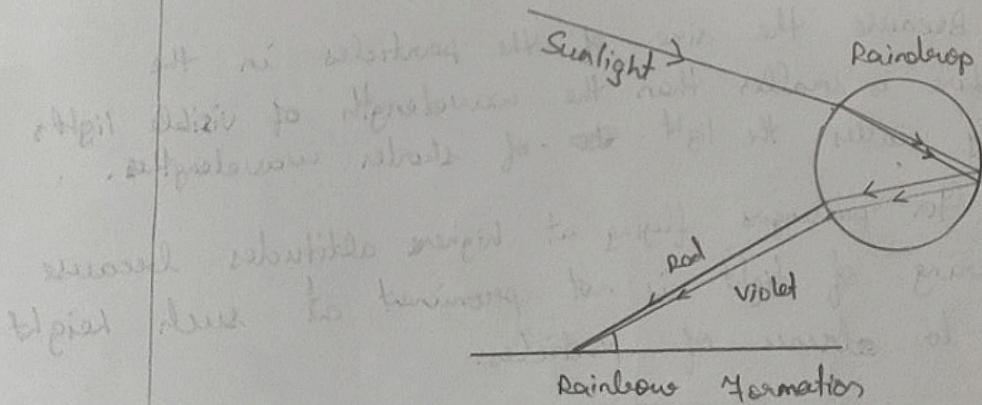
RECOMBINATION OF WHITE LIGHT:

Newton showed that the reverse of dispersion of light is also possible



RAINBOW:

- Caused by dispersion of sunlight by tiny water droplets.



Atmospheric Refraction:

The phenomenon of bending of light, when it passes through the Earth's atmosphere is known as atmospheric refraction.

Some Phenomena:

Twinkling of stars: - Due to atmospheric refraction of starlight.

- They appear to seem higher than they are.
- Planets do not twinkle.
- Advance sunrise and delayed sunset.

Scattering of Light:

- Deviation of light from its path randomly in all direction, when it falls on suspended particles present in atmosphere is called scattering of light.
- The colour of scattered light depends on the size of scattering particles and wavelength of light.

Some Phenomena:

Tyndall Effect: Scattering of light when it passes through a colloidal solution that are suspended in a medium.

Why the colour of sky blue:

Because the size of the particles in the atmosphere is smaller than the wavelength of visible light, so they scatter the light ~~of~~ of shorter wavelengths.

For passengers flying at higher altitudes because scattering of light is not prominent at such height due to absence of particles.