Chapter – 16
Light

- **Light:** The natural agent that stimulates sight and makes things visible. Light is reflected from all surfaces.
- Regular reflection takes place when light is incident on smooth, polished and regular surfaces.
- Diffused/irregular reflection takes place from rough surfaces.
- **Reflection of Light:** Bouncing back of light after striking the surface, in the same medium, is called reflection.
- **Types of Reflection:**
  (i) **Regular Reflection:** When a narrow beam of light strikes a mirror, the light will not reach your eye unless your eye is positioned at just the right place where the law of reflection is satisfied.
  (ii) **Diffused or Irregular Reflection:** When light is incident upon a rough surface, it is reflected in many directions.
- Two laws of reflection are
- The angle of incidence is equal to the angle of reflection.
- Incident ray, reflected ray and the normal drawn at the point of incidence to the reflecting surface, lie in the same plane.
- Image formed in a plane mirror undergoes lateral inversion.
- Two mirrors inclined to each other give multiple images.
- Beautiful patterns are formed in a kaleidoscope because of multiple reflections.
- Sunlight, called white light, consists of seven colours.
- Splitting of light into its constituent colours is known as dispersion.
- Important parts of the eye are cornea, iris, pupil, lens, retina and optic nerve.
- A normal eye can see nearby and distant objects clearly.
- Visually challenged persons can read and write using Braille system.
- Visually challenged persons develop their other senses more sharply to improve their interaction with their environment.
- **Parts of Human Eye**:

(i) **Cornea**: Transparent bulge on the front surface of the eyeball which protects the eye and helps in refraction of light.

(ii) **Iris**: Coloured diaphragm behind the cornea which controls the amount of light entering the eye.

(iii) **Pupil**: Dark hole in the middle of iris through which light enters the eye.

(iv) **Eye lens**: Transparent, crystalline structure behind pupil and iris.

(v) **Ciliary muscles**: Hole the eye lens in position and control the focal length of the eye lens.

(vi) **Retina**: Surface of the rear part of the eyeball where the light entering the eye is focused.

(vii) **Rods and Cones**: Rod cells respond to the brightness of light while cone cells respond to colours.

(viii) **Blind spot**: It is the least sensitive point where no rodsd and cones are present.

(ix) The space between the cornea and the eye lens is filled with **aqueous humour**.

(x) The space between the eye lens and the retina is filled with **vitreous humour**.