

The Human Eye:-

1. The human eye works on the refraction of light through a natural convex lens made of transparent living material and enables us to see things around us.
2. The main parts of the human eye are: Cornea, ^{कॉर्निया} Iris, ^{आयरिस} Pupil, Ciliary muscles, ^{सिलियरी} Eye lens, Retina and Optic nerve.

3. Diagram: (Fig. 10.1)

Working Construction of Human eye:-

1. The lens system of human eye forms an image on a light sensitive screen called the retina.
2. Light enters the eye through a thin membrane called the cornea. It forms the transparent bulge on the front surface of the eyeball.
3. The eyeball is approximately spherical in shape with a diameter of about 2.3 cm.
4. Most of the refraction of the light rays entering the eye, occurs at the outer surface of the cornea.
5. The crystalline lens that provides the finer adjustment of focal length required to focus objects at which are at different distances, on the retina.
6. Just behind the cornea, there is iris. It is a dark muscular diaphragm which controls the size of the pupil.
7. The pupil regulates and controls the amount of light entering the eye.
8. The eye lens forms an inverted real image of the object on the retina. The retina is a
9. The retina is a membrane having enormous number of light sensitive cells, which gets activated when light falls on it and generates an electrical signal.
10. These electrical signals are sent to brain via the optic nerves. The brain interprets these signals and finally processes the information so that we perceive objects as they are.

Power of Accommodation:-

- a. The eye lens is composed of fibrous, jelly like material and its ~~ex~~ curvature can be modified to some extent using ciliary muscles.
- b. The change in the curvature of eye lens thus change its focal length.
- c. The eye lens become thin when muscles are relaxed. Hence we can see distant object clearly. This will increase the focal length of the eye lens. Hence we can see distant object clearly. सांख्य.
- d. The eye lens become thick when muscles are contract. This will decrease the focal length of the eye lens. Hence we can see ~~object~~ close object clearly.
- e. The ability of the eye lens to adjust its focal length is called 'accommodation'.
- f. However decrease in focal length of eye lens is possible up to certain limit only. To see an object comfortably and distinctly, it has to hold about 25 cm from the eyes.
- g. The minimum distance at which object can be seen most distinctly without strain, is called the least distance of distinct vision. It is also called the near point of the eye. For normal eye, ~~25 cm~~ is near point is 25 cm.
- h. The farthest point upto which the eye can see the object clearly is called far point of the eye. For normal eye, it is infinity.