L-11 THE HUMAN EYE AND THE COLOURFUL WORLD

CLASS-X SCIENCE MODULE-1/4

THE HUMAN EYE

The human eye is like a camera.

Its lens system forms an image on a light-sensitive screen called the retina.

Light enters the eye through a thin membrane called the cornea.

It forms the transparent bulge on the front surface of the eyeball.

The eyeball is approximately spherical in shape with a diameter of about 2.3 cm.

We find a structure called iris behind the cornea.

Iris is a dark muscular diaphragm that controls the size of the pupil.

The pupil regulates and controls the amount of light entering the eye.

The eye lens forms an inverted real image of the object on the retina.

The retina is a delicate membrane having enormous number of light-sensitive cells.

The light-sensitive cells get activated upon illumination and generate electrical signals. These signals are sent to the brain via the optic nerves.

The brain interprets these signals, and finally, processes the information so that we perceive objects as they are.

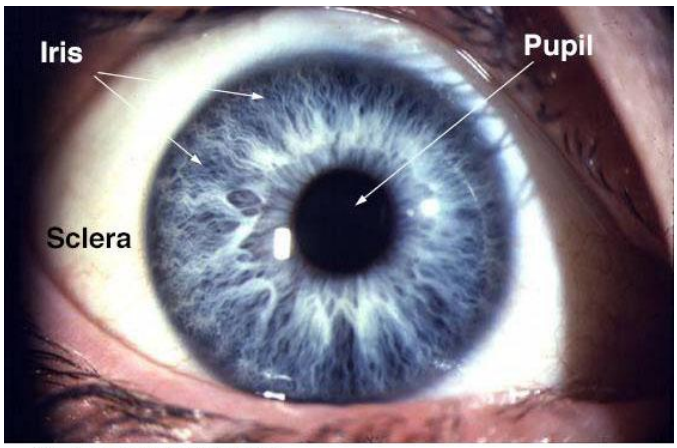
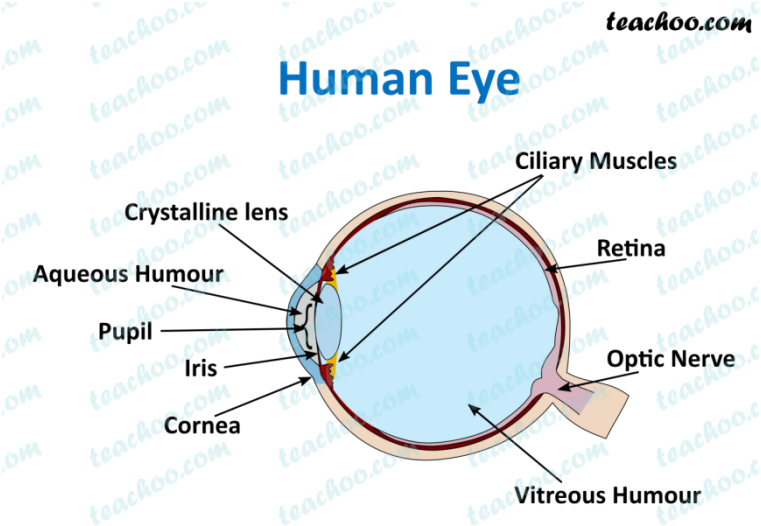


Fig. 1. View of the human eye



Power of Accommodation

The ability of the eye lens to adjust its focal length is called accommodation.

The minimum distance, at which objects 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 a young adult with normal vision, the near point is about 25 cm.

The farthest point up to which the eye can see objects clearly is called the far point of the eye.

It is infinity for a normal eye .

A normal eye can see objects clearly that are between 25 cm and infinity.

Sometimes, the crystalline lens of people at old age becomes milky and cloudy. This condition is called cataract.