

HUMAN EYE.

Date.....20

Introduction

Human eye is the organ which gives us sense of vision. The eye is most important and complex sensory organs that we humans are endowed with. It helps us in light perception, colour, and depth perception. Besides, these sense organs are pretty much similar to cameras, and they helps us see objects when light coming from outside enters them, that being said, it is quite interesting to understand how a working human eye.

Structure of Human Eye.

A human eye is roughly 2.3 cm in diameter and is almost a spherical ball filled with some fluid.

It consists of following parts.

Sclera:

It is the outer covering, a protective tough white layer called the sclera (white part of eye) it is also called the outer layer of eye.

Cornea:

The front transparent part of the

sclera is called cornea, light enters the eye through the cornea.

Iris:

A dark muscular tissue and ring like structure behind the cornea is known as iris. The colour of the iris actually indicates the colour of the eye. The iris also helps regulate or adjust exposure by adjusting their iris

Pupil:

The small opening in the iris is known as a pupil, its size is controlled with the help of iris. It controls the amount of light that enters the eye.

Lens:

Behind the pupil, there is a transparent structure called a lens. By the action of ciliary muscles, it changes its shape to focus light on the retina. It becomes thinner to focus on distant objects and becomes thicker to focus on the nearby objects.

Retina:

It is a light sensitive layer that consist of numerous nerves cells it converts image

formed by the lens into electrical impulses. These electrical impulses are then transmitted to the brain through optic nerves.

Optic nerves:

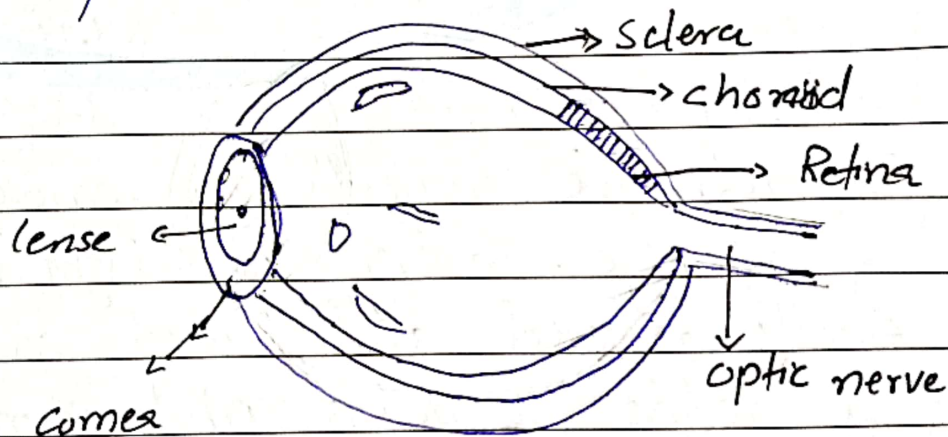
Optic nerves are of two types:

Cones

Cones are the nerve cells that are more sensitive to bright light. They help in detailed central and colour vision.

Rods:

Rods are the optic nerve cells that are more sensitive to dim light. They help in peripheral vision.



Function of Human eye

As mentioned earlier, the eye of a human being is like a camera. Much like the electronic device, the human eye also focuses and lets in light to produce images.

So basically, light rays that are deflected from or by distant objects land on the retina after they pass through various mediums like the cornea, crystalline lens, aqueous humor, the lens, and vitreous humor. The concept here though is that as the light rays move through the various mediums, they experience refraction of light.

Medium	Refractive Index
Air	1.000
Cornea	1.376
Aqueous Humor	1.336
Lens	1.42
Vitreous Humor	1.336

The refractive indicates the various parts of the eye. However the light rays finally received and focused on the retina. The retina contains photoreceptor cells called rods and cones, these basically detect the intensity and frequency of light.