

HUMAN EYE AND THE COLOURFUL WORLD

CHAPTER NO.11

SUB: PHYSICS

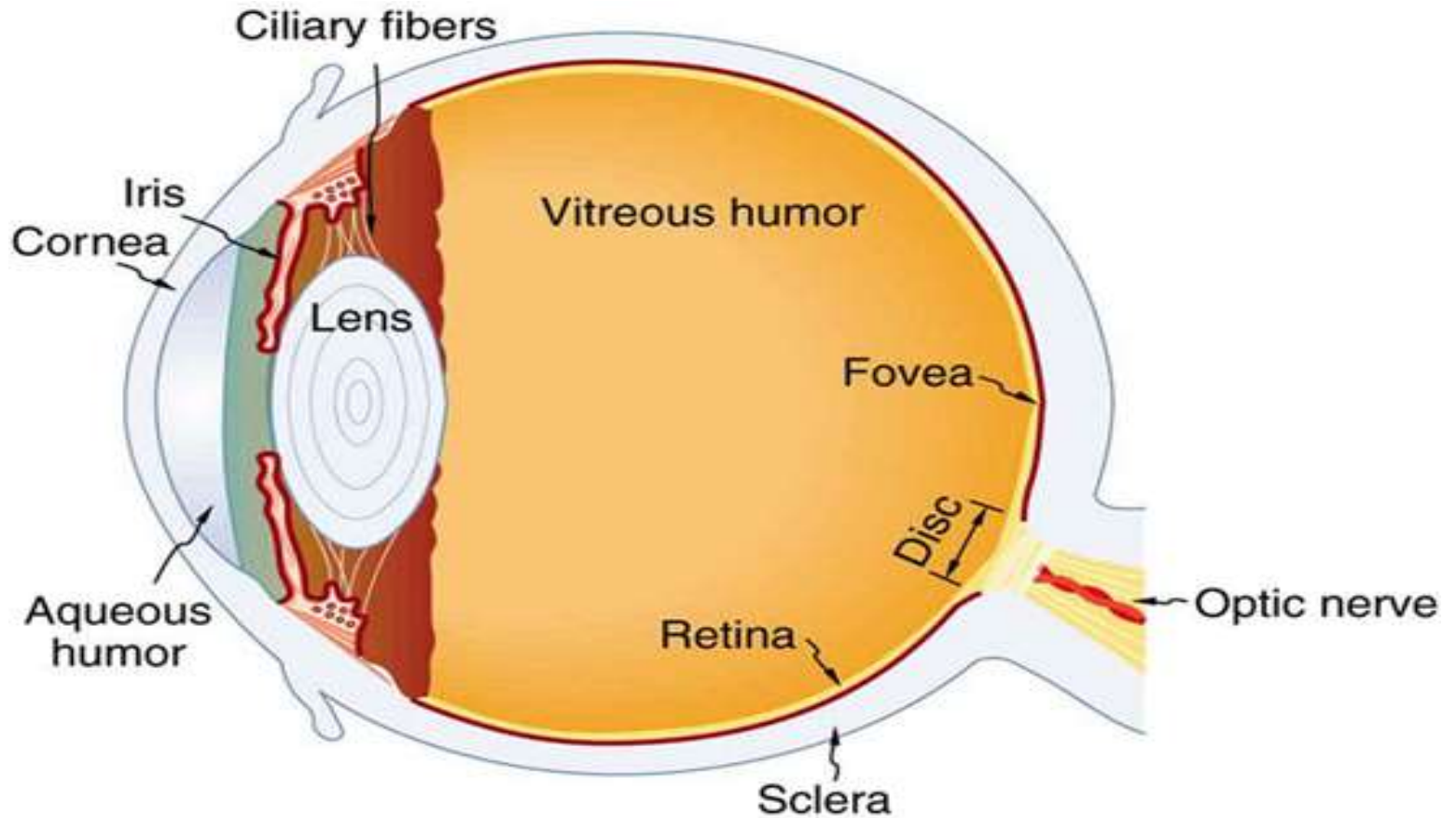
HUMAN EYE AND THE COLOURFUL WORLD

CHANGING YOUR TOMORROW

HUMAN EYE

- The human eye is one of the most sensitive sense organs of sight which enables us to see the wonderful world of light and color around us. It is like a camera having a lens system and forming an inverted, real image on a light sensitive screen inside the eye

HUMAN EYE



PARTS OF HUMAN EYE

- Human eye consists of:
- Cornea
- Iris
- Pupil
- Ciliary muscles
- Lens
- Retina
- Blind spot
- Optic nerve

PARTS OF HUMAN EYE

- Cornea –
- It is the white part of the eye that allows light to enter and it act as window to world.
- Iris –
- It is the colored part of the eye. It holds the pupil and also adjusts the size of pupil according to the intensity of light.
- Pupil –
- It is black in color that absorbs all the light rays falling on it. It gets constricted when light intensity is high. It gets expanded when light intensity is low.
- Ciliary Muscles –
- It holds the lens and adjusts the focal length of the lens.
- Convex Lens –
- It is a cellular structure resembling convex lens.

PARTS OF HUMAN EYE

- Retina –
- It is a screen of eye where image is formed. It consists of two types of cells:
 - a) Cone cells
 - These cells respond to colors.
 - b) Rod cells
 - These cells respond to intensity of light.
- Yellow Spot –
- It is a point on retina where most clear image is formed.
- Blind Spot –
- It is a point on retina where no image is formed.
- Optic nerve –
- It is a nerve that connects eye to brain.

PARTS OF HUMAN EYE

- **Cornea:** It is the transparent spherical membrane covering the front of the eye. Light enters the eye through this membrane. Most of the refraction occurs at the outer surface of the cornea.
- **Iris:** It is a dark muscular diaphragm between the cornea and the lens. It controls the size of the pupil.
- **Pupil:** It is a small hole between the iris through which light enters the eye. In dim light it expands and in bright light it contracts.
- **Crystalline Lens:** The eye lens is a convex lens made of a transparent, soft and flexible material like a jelly made of proteins
- **Ciliary Muscles:** They hold the lens in position and help in modifying the curvature of the lens.
- **Retina:** It is the light sensitive surface of the eye on which the image is formed. It contains Rods and Cones. Rod cells respond to intensity of light and cone cells respond to colors. These cells generate signals which are transmitted to the brain through the optic nerve.

PARTS OF HUMAN EYE

- **Optic Nerve:** It transmits visual information from the retina to the brain.
- **Sclera:** It is an opaque, fibrous, protective outer layer of an eye containing collagen and elastic of the fiber. It is also called as the white of the eye.
- **Blind Spot:** It is the point at which the optic nerve leaves the eye. It contains no rods and cones. So an image formed at this point is not sent to the brain.
- **Aqueous humour:** Between the cornea and the eye lens, we have a space filled with a transparent liquid called the aqueous humour. It maintains the intraocular pressure.
- **Vitreous humour:** The space between the eyelens and retina is filled with another liquid called vitreous humour.

THANKING YOU
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