# ANATOMY OF THE EYE & VISUAL SYSTEM

## ANATOMY OF THE EYE

**1) Conjunctiva:**

- Mucous membranes that line the eyelid.
- Covers the eyeball and fuses with the eyelids.
- Prevents foreign objects from getting behind the eye.

**2) Cornea:**

- The outer, front layer of the eye.
- Focuses incoming light by a fixed amount.

**3) Sclera:**

- Opaque; does not permit the entry of light.
- Lines the border to prevent light from entering inappropriately.

**4) Iris (Coloured part):**

- Muscle contraction and relaxation determine pupil size.
- Regulates how much light enters the eye.
- Optimizes retina's ability to perceive images (like a camera lens).

**5) Lens:**

- Composed of several transparent layers.
- Its shape changes to focus on near or far objects.
- **Accommodation:** Process of lens adjustment for focusing.
- Light passes through lens, then crosses vitreous humor fluid.

**6) Retina (Furthest back):**

- The region where photoreceptor cells are located.

**7) Fovea & Photoreceptors:**

- **Fovea:** Central region of the retina. Contains cone cells (specialized for color and detailed vision).
- **Rod Cells:** Located in periphery of retina. Most sensitive to light (specialized for low-light vision).

**8) Optic Disc:**

- Point where blood vessels enter and leave the eye.
- Where the optic nerve exits, carrying visual information to the brain.
- Contains no photoreceptors, resulting in the physiological blind spot.

## MOVEMENTS OF THE EYE

**Suspension:**

- Eyes are suspended in bony sockets in the front of the skull, called **orbits**.

### Muscles:

- Six **extraocular muscles** attached to the sclera (tough, outer white part of eye).
- These muscles rotate the eye and hold it in place.

### Types of Eye Movements:

- **Saccadic Eye Movements:** Rapid, jerky shifts in gaze from one point to another.
- **Pursuit Movements:** Maintain focus on an object that is moving.

## ORGANIZATION OF THE RETINA

### Visual Information Pathway:

Visual information propagates from:

Photoreceptor cells → Bipolar cells → Retinal ganglion cells → Brain.

### Light's Path Through Retina:

Light entering the eye must first pass through each of the cell layers in the retina *before* reaching the proteins in the photoreceptor cells where it is actually detected.

*(Refer to "ORGANIZATION OF RETINA PHOTO SLIDE 22" for visual aid.)*