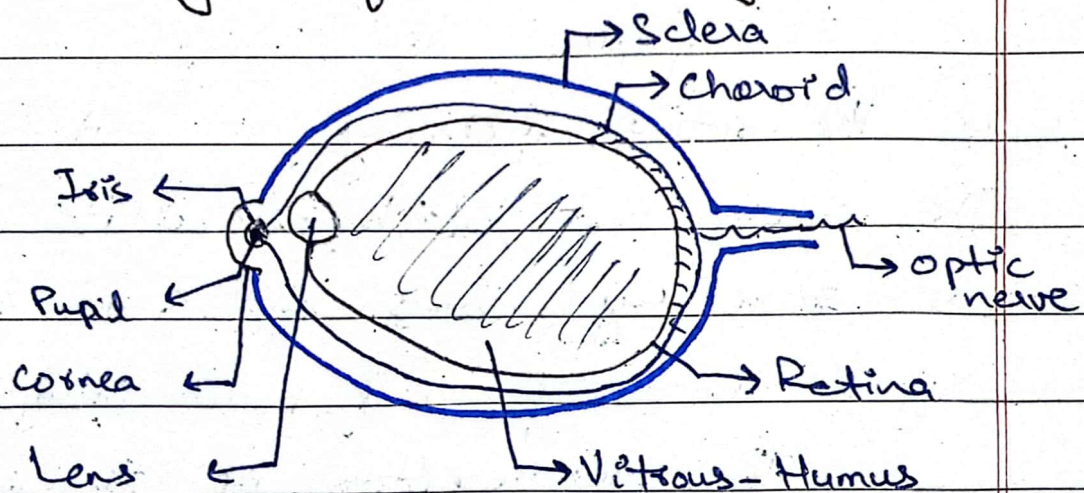


Question 3:

(A) Explain the working of human eye.

Human eye is an organ that helps in creating image in human mind. It works by focusing light to create an image which is then processed by the brain.

Working of Human Eye:



1) Light Entry and Regulation:

Light enters the eye through cornea. It acts as primary refractive surface to bend light rays in order to focus them. The light then passes through pupil. It is a small

hole from where ~~no~~ light ~~enters~~ the human eye. The iris regulates the amount of light entering the ~~eyes~~ by contracting or dilating the pupil depending upon the outside brightness.

2) Focusing and Image formation.

The lens further adjust the focus of the light rays onto the retina. The ciliary muscles changes the shape of lens in order to focus on object. This process is called accommodation.

The focused light rays converge on the retina forming an inverted image. The colours and black and white visions are seen by cones and rods respectively.

3) Signal Processing and Brain interpretation:

The photoreceptors in the retina convert these light rays into electrical signal. These signals in the form of impulse travel to brain via optic nerve.

The visual cortex processes the electrical signal and interpret this data to allow humans to perceive the world accurately.

Part (B):

Give symptoms and preventive measure for Malaria and Dengue.

Malaria:

Malaria is a life-threatening disease caused by the bite of infected female 'Anopheles' mosquitoes.

Symptoms:

Its symptoms typically appear after 10-15 days of being bitten. It includes high fever, chills, headache, fatigue and joint pain. If these symptoms continue for more than 2 days, the person has high chances of getting malaria.

Preventive Measures:

It can be prevented by using mosquito repellents, eliminating standing water and taking proper care of hygiene. As this disease is spread by mosquitoes, the more the clean place the less chances create for being bitten by mosquito.

Dengue:

Dengue is a viral infection mostly in tropical and subtropical areas. It is caused by dengue virus which is transmitted to human by the bite of infected Aedes mosquito.

Symptoms:

Dengue symptoms typically begin 4-10 days after getting bitten. It includes high fever, severe headache, skin rash, bleeding tendencies like gum bleeding and severe joint pain. It is also known as "breakbone fever" due to severity of its pain.

Preventive Measures:

The primary focus should be on avoiding mosquito bite. It can be achieved by wearing long-sleeve cloths, applying mosquito repellent and mosquito nets. Beside this, stagnant water should be removed because it is home to mosquito's larvae. Public awareness must also be given importance to stop its effect.