PRISM WORLD

Std.: 10 (English) **Science - I** **Marks: 20**

Date: **Time: 1 hrs**

Chapter: 7

Q.1 A) Choose the correct alternative and rewrite the sentence **(1)**

1) The power of Convex lens of focal length 20 cm is .....

a. +5.0 D b. 0.20 D c. -5.0 D d. 0.5 D

B) Answer the following questions. **(2)**

i) Find co-related terms

Observing stars : Telescope :: Repairing a watch : .....

ii) State true or false.

If the Power of a lens is 2D, its focal length is 0.5 m

Q.2 A) Give scientific reason. (Any one) **(2)**

1) My grandfather uses bifocal lens in his spectacles.

2) Piece of paper held in front of the Concave lens will not burn.

B) Answe the following questions. (Any two) **(4)**

i) Distinguish between

Mirror and Lens

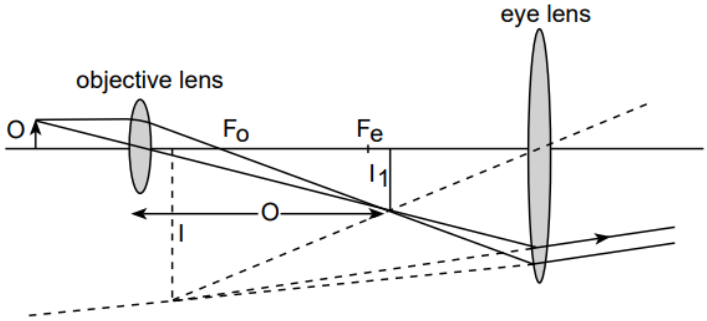
ii) Write Short Notes on

Persistence of vision.

3) Define Principal Focus (F) of Concave lens.

Q.3 Answer the following questions. (Any two) **(6)**

1) Study the given diagram and answer the following questions:



a. In which type of microscope do you find the lens arrangement as shown in the above diagram?

b. Why objective lens is smaller than eye piece?

c. Where is this type of microscope used?

2) What is meant by the apparent size of an object ? Draw a neat labelled diagram.

3) Complete the paragraph:
(Conical, rod-like, colours, actual, sensitive)

The retina in our eyes is made up of many light ..... cells. These cells are shaped like a rod and like a cone. The ..... cells respond to the intensity of light and give information about the brightness or dimness of the object to the brain. The ..... cells respond to the colour and give information about the colour of the object to the brain. Brain processes all the information received and we see the ..... image of the object. Rod-like cells respond to the faint light also but ..... cells do not. Some people lack conical cells responding to certain colours. These persons cannot recognize those colours or cannot distinguish between different ..... These persons are said to be colour blind.

Q.4 Answer the following questions. (Any one) **(5)**

1) Draw a scientifically correct labelled diagram of the human eye and answer the questions given below.

a. Name the type of lens in the human eye.

b. Name the screen at which the maximum amount of incident light is refracted.

c. State the nature of the image formed of the object on the screen inside the eye.

2) An object AB is placed between optical centre and Principal focus of Convex lens. F_1 and F_2 are two Foci of the lens.

i. Draw the ray of light starting from A and passing through O. Show the same ray after refraction by lens ?

ii. Draw another ray from A which passes through F_2 after refraction of the lens ?

iii. Locate the final image formed ?

iv. Is the image real or inverted ?

v. State the characteristics of image ?