

NAME OF THE STUDENT: \_\_\_\_\_ Roll No: \_\_\_\_\_

MAX.MARKS:25

Time:45min \_\_\_\_\_

**I) Answer the following questions****4x1=4M**

1. Doctor advised to use 2D lens. What is its focal length?
2. What is accommodation of eye lens?
3. How can you correct the eye defect presbyopia?
4. What is dispersion of light? Give an example?

**II) Answer the following questions****5x2=10M**

5. What is the reason from sun appearance the white colour during noon hours
6. A light ray falls on one of the faces of prism at an angle  $40^\circ$  so that it suffers angle of minimum deviation of  $30^\circ$ . Find the angle of prism and angle of refraction at the given surfaces?
7. What is meant by presbyopia
8. How do you appreciate the working of ciliary muscles in the eye?
9. Glass is known to be a transparent material. But ground glass is opaque and white in colour. Why?

**III) Answer the following questions****2x4=8M**

10. Explain the formation of rainbow?

(OR)

How do you find experimentally the refractive index of material of a prism?

11. A person cannot see the objects beyond 2 meters
  - i) Name the defect of vision he is suffering from?
  - ii) Which lens is required to correct his defect?
  - iii) Find the power of lens required?
  - iv) Write the formula of focal length of this eye defect?

(OR)

A person cannot read newspaper placed nearer than 50 cm. From his eyes. Draw a ray diagram to illustrate this defect. Draw a ray diagram to show how this defect may be corrected using a lens

**IV) Fill the following blanks****6x1/2=3M**

12. What is the minimum focal length of the human eye lens
13. Which type of images forms by eye lens?
14. Name the receptors are there in the human eye?
15. Define the power of lens
16. What is angle of vision for healthy human beings?
17. Write a formula to find the refractive index of the material of the prism