

**SLIP TEST****10<sup>th</sup> CLASS****PHYSICAL SCIENCE****CHAPTER: Refraction of Light at Curved Surfaces**NAME OF THE STUDENT: \_\_\_\_\_ Roll No: \_\_\_\_\_ MAX.MARKS:25  
Time:45min\_\_\_\_\_**I)Answer the following questions****4x1=4M**

- 1.What happens to a ray that travels along the principal axis?
2. Write the formula for formation of image by curved surface?
- 3.Find the focal length of the plano-convex, when its radius of curvature of the surface is R and n is the refractive index of the lens
- 4.Can a virtual image be photographed by a camera?

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

- 5.A double convex lens has two surfaces of equal radii 'R' and refractive index  $n=1.5$ , find the focal length
- 6.Kapil gave statement that " A convex lens always forms real images". Are you agree this statement? why?
- 7.A man wants to get a picture of a zebra. He photographed a white donkey after fitting a glass,black stripes on to the lens of his camera.What photo will he get? Explain
- 8.Mallika wrote lens maker's formula as  $1/f=1/(n-1)[1/R_1+1/R_2]$   
If it is wrong, write correct formula and explain the terms in it.
9. Suppose you are inside the water in a swimming pool and your friend is standing on the edge. Do you find your friend taller or shorter than his usual height? Why?

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

10. How do you find the focal length of a lens experimentally  
(OR)

How do you verify experimentally that the focal length of a convex lens is increased when its kept in water

11. Arjun performed an experiment with bi-convex lens and formulated table as shown. By observe the below table answer the following questions

S.NO	u	v
1	40 cm	13.3 cm
2	20 cm	20 cm
3	30 cm	15 cm
4	50 cm	12.5 cm

- a) What is the focal length of the lens?
- b) If the object is kept at 30 cm from lens, what are the characteristics of the image formed?
- c) To get virtual image ,at what distance should kept the object from lens?
- d) When object distance is 10 cm, where will image formed?

(OR)

Draw ray diagrams for the following positions and explain the nature and position of image

- a)Object is placed at  $2F_2$
- b)Object is placed between  $F_2$  and optic centre

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

12. The rays from the distant object,falling on the convex lens pass through \_\_\_\_\_
13. If the value of the focal length of the lens is equal to the value of the image distance, then the place of the object is \_\_\_\_\_
14. An air bubble in water behaves like a \_\_\_\_\_
15. The line that joins the centre of curvature and the pole is called \_\_\_\_\_
16. What is the sign of the focal length of concave lens \_\_\_\_\_
17. If convex lens is made up of five different materials, then \_\_\_\_\_ images are formed