

ASSIGNMENT
CLASS :XI
SUBJECT:PHYSICS

1.A highly polished surface reflects most of the light falling on it.

(i) Name the spherical mirror whose reflecting surface is curved inwards.

(ii) Name the straight line which is passing through the centre of curvature and pole of a spherical mirror.

2.An object of height 10 cm is placed at a distance of 20 cm from a concave lens of focal length 25 cm.

(a) Calculate the distance of image formed from the lens.

(b) Calculate the height of image.

© Is the image real or virtual? Justify your answer.

3.The following table gives the value of refractive indices of a few media

S.NO	1	2	3	4	5
Medium	Water	Glass	Rock Salt	Ruby	Diamond
Refractive Index	1.33	1.52	1.54	1.71	2.42

Use this table to :

(a) Give all examples of a medium pair so that light speeds when it goes from one of these media to another.

(b) Give all examples of a medium pair so that light slows down when it goes from one of those media to another.s

(c) Relate the speed of light with the refractive index of the medium.

4.Class X science teacher observed that one of her student , Ruchi avoids to sit on the front desk of the class.On observing her, she found that Ruchi is facing the difficulty in reading the blackboard text from the desk and also she cannot write comfortably. She called her and explained the defect of eye and advised her to consult the eye specialist immediately.On her advice, she consulted the doctor, who gave corrective lens to solve her problem.

(a) Draw a ray diagram to illustrate the formation of image of the black board writing by her eye lens, when she is seated at the front desk

(b) Name the other defect of eye as explained by her teacher for her difficulty to read and write.

©What moral values were shown by her teacher ?

5.(a) Identify the mirror which should be used to obtain a diminished and erect image.

(b) Identify the type of lens which should be used to obtain real and highly diminished image.

© Which lens would you use to obtain convergent beam of light ?

(d) Magnification produced by a spherical mirror is negative. Explain whether the image formed by the mirror is erect or inverted.

6.(a) What is meant by power of a lens ?

(b) State and define the SI unit of power of a lens.

©A convex lens of focal length 50 cm and a concave lens having half the focal length of convex lens are placed in close contact with each other.Calculate the lens power of this combination.