كلية المستقبل الجامعة

قسم تقنيات البصريات

الفيزياء الطبية والبصرية

المرحلة الاولى

المحاضرة الخامسة

Department of Optics Techniques

Lecture 5

M.SC. Dhay ali sabur

Examples and tutorials.

1. Determine the image distance and image height for a 5cm tall object placed 45.0 cm from a double convex lens having a focal length of 15.0 cm.

2. Determine the image distance and image height for a 5cm tall object placed 30.0 cm from a double convex lens having a focal length of 15.0 cm.

3. Determine the image distance and image height for a 5cm tall object placed 20.0 cm from a double convex lens having a focal length of 15.0 cm.

4. 8. Determine the focal length of a double concave lens that produces an image that is 16.0 cm behind the lens when the object is 28.5 cm from the lens.

5. A magnified, inverted image is located a distance of 32.0 cm from a double convex lens with a focal length of 12.0 cm. Determine the object distance and tell whether the image is real or virtual.

6. . A 2.8-cm diameter coin is placed a distance of 25.0 cm from a double concave lens that has a focal length of 12.0 cm. Determine the image distance and the diameter of the image.

Notes

❖ f is + if the lens is a double convex lens (converging lens)

❖ f is - if the lens is a double concave lens (diverging lens)

❖ v is + if the image is a real image and located on the opposite side of the lens.

❖ v is - if the image is a virtual image and located on the object's side of the lens.

❖ h is + if the image is an upright image (and therefore, also virtual)

❖ h is - if the image an inverted image (and therefore, also real