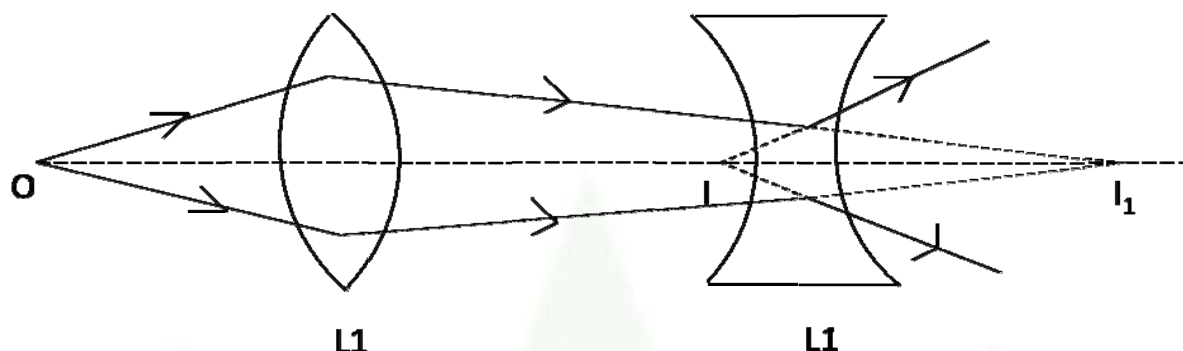




## Modern Sign Convention

**Object:** In drawing the ray diagram we define the object as that point from which the incident rays diverge or the point to which the incident ray appear to converge.



For the lens L1, the incident rays diverge from the point O, hence O is the object for the lens L1. For the lens L2, the incident rays appear to converge at  $I_1$  hence  $I_1$  serves as an object for lens L2.

**Image:** The point at which the refracted rays converge or the point from which the refracted rays appear to diverge is the image.

For the lens L1, the refracted rays meet at  $I_1$  hence  $I_1$  is the image of the object O formed by lens L1.

For the lens L2 the refracted rays appear to diverge from the point I hence I is the image of the object  $I_1$  formed by the lens L2.

### Modern Sign Convention:

**Object distance:** The distance of the object measured from the pole or the optical center is known as object distance. The object distance measured against the incident rays ( on coming rays ) is taken as positive & in favor of the incident rays it is taken as negative.

**Image distance:** The distance of the image point measured from the pole or the center is known as image distance. The image distance measured in favor of optical the refracted rays is taken as positive & against the refracted rays is taken as negative.

**Radius of curvature:** The distance measured from the pole up to the center of curvature is known as radius of curvature. Radius of curvature measured with the ongoing rays (refracted rays) is taken as positive & against the ongoing rays it is taken as negative.