

Exp. No. :

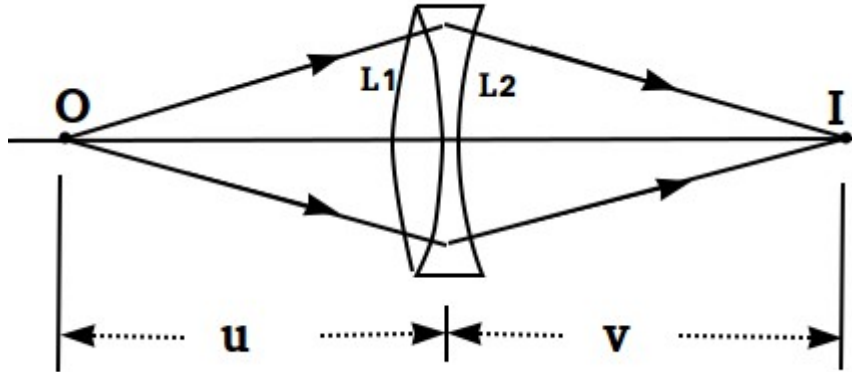
Date:

Concave Lens

Aim: To find the focal length of the Concave Lens by using a Convex Lens in contact with the Concave Lens.

Apparatus: Concave Lens, Convex Lens, Illuminated wire gauze, Screen etc.

Principle:



When two lenses of focal lengths f_1 and f_2 are kept in combination co-axially, the effective focal length (F) of the combination is given by the equation $\frac{1}{F} = \frac{1}{f_1} + \frac{1}{f_2}$

If f_1 is the focal length of the Convex lens and f_2 is that of the Concave Lens, the focal length of the Concave Lens is given by the equation $f_2 = \frac{F f_1}{f_1 - F}$

Lens Used	Sl No.	Object distance (u) cm	Image distance (v) cm	$f = \frac{uv}{u+v}$ Cm	Mean (cm)
Convex Lens	1				$f_1 =$
	2				
	3				
	4				
	5				
Convex Lens and Concave Lens in Contact	1				F =
	2				
	3				
	4				
	5				

Focal Length of the Concave Lens $f_2 = \frac{F f_1}{f_1 - F} = \quad = \quad \text{cm} = \text{m}$

Power of the Concave Lens $P = \frac{1}{f_2} = \quad \text{D}$

Result:

Focal Length of the given Concave Lens = \quad m
 Power of the given Concave Lens = \quad D