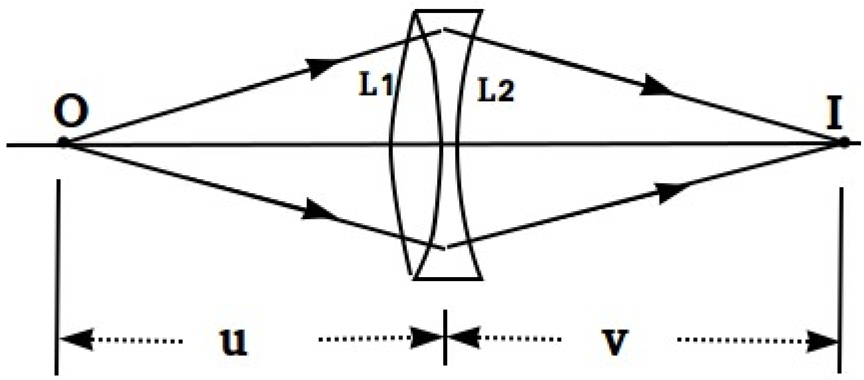
Exp. No. : Date:

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 f2 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 2 3 4 5				f_1 =
Convex Lens and Concave Lens in Contact	1 2 3 4 5				F =

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

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

Result:

Focal Length of the given Concave Lens = m

Power of the given Concave Lens = D