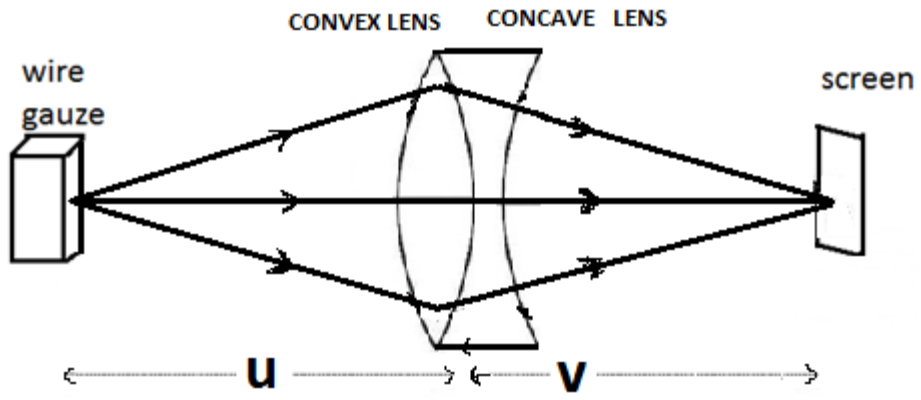

Observations and Calculation

Using Distant object method we can find focal length, based on that chose suitable values for u between 1.5*f and 2.5*f

example if **f '** =10 cm then 1.5x10 = 15cm and 2.5x10 = 25 cm

then u can be 16,18,20,22,24

similarly in distant object method, for combined lens if f=18 cm then 1.5x18=27 and 2.5x18=45 then u can be 28,30,32,34,36 …

Lens used	Trail No	Object Distance u in cm	Image distance v in cm	Focal length f= $\frac{uv}{(u+v)}$	Mean focal length f in cm
Convex lens	1 2 3 4 5 6				f = ……cm
Convex lens and Concave lens	1 2 3 4 5 6				f = …… cm

Focal length of the given concave lens **F =** $\frac{ff'}{(f'-f)}$ **= ……. cm**

F = ……m

CONCAVE LENS

AIM

To find focal length of concave lens by contact method

APPARATUS

Concave lens, convex lens, screen, illuminated wire gauge.

THEORY

If **f** is the focal length of combination of lens and **f ’** is the focal length of convex lens , then the focal length of concave lens is given by

$$F = \frac{ff'}{(f'-f)}$$

PROCRDURE

First find the focal length of convex lens (**f ’**) using u-v method. Lens is placed at a distance (u) from the wire gauze, then by adjusting screen clear image is formed. Now image distance (v) is measured. This method is repeated for different values of u. Now the convex and concave lens are placed in contact and stick together using insulation tap (since concave lens can’t form real images). Now find the focal length of the combination (**f**) using u-v method as explained later. Form **f and f ’** calculate F of concave lens.

RESULT

Focal length of the given concave lens, **F** = …… m