

## PRACTICAL: 7

### LEVER

**Aim:** To determine the mass of a meter scale using it as a lever.

**Apparatus:** meter scale, a wedge, a thin thread of negligible mass, a set of weight

**Formula:**  $m = \frac{w \cdot y}{x} \cdot g$

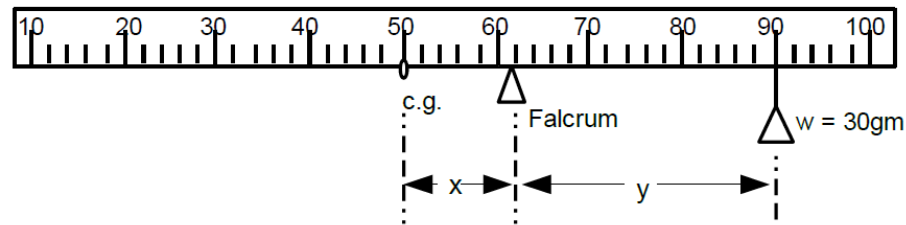
m = mass

w = suspended weight

x = distance between c.g. and fulcrum

y = distance between fulcrum and weight

**Figure:**



**Procedure:**

1. Make a loose thread loop and put in the meter loop in such a way that its graduated flat portion remains vertical. Balance the meter rule on wedge. It should balance around 50 cm. This is the centre of gravity (c.g.) of meter scale.
2. Take a 20gf (aprox.) weight and suspend it on the scale with the help of thread on the right side of c.g. of meter scale (at 90 cm). Put the scale on the wooden wedge placing in between c.g. And weight to balance as shown in figure.
3. Note down the distance between c.g. And fulcrum (x). Also note down the distance between fulcrum and weight (y).
4. Repeat the observation by changing the weight to 30 gf and 40 gf.

**Observation:**

L.C. Of meter scale: \_\_\_\_\_ cm.

Sr. No.	Weight suspended (w gf)	Distance 'x' (in cm)	Distance 'y' (in cm)	Mass of meter scale $m = \frac{w \cdot y}{x} \cdot g$	Avg. Mass (g)
1	20 gf				
2	30 gf				
3	40 gf				

Result: The mass of the given meter scale: \_\_\_\_\_ gm.

**Precautions:**

1. Meter scale should be kept horizontal for proper equilibrium.
2. Standard weight should be taken.
3. We should switch off the fan and avoid the place near window for proper equilibrium.

**Viva Voce:**

1. Which class of lever you are using?
2. What is M.A. Of a lever?
3. What is principle of lever?
4. What is the VR?