# PARALLELOGRAM LAW OF FORCES I

## AIM

1) To find the weight of the given body using parallelogram law of vectors.

## APPARATUS

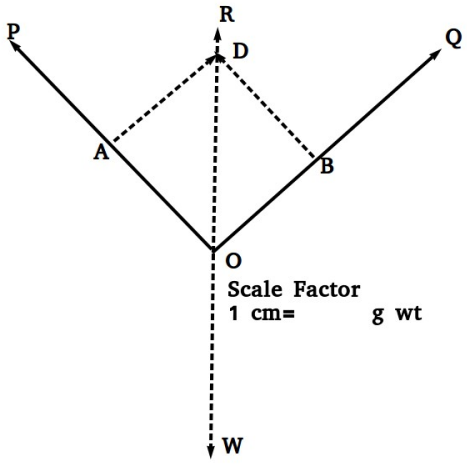
Gravesand's apparatus, slotted weights, given body, glass plates, paper, pins etc.

## THEORY

If **P** and **Q** are the known weights and **W** is the weight of the unknown body, which are in equilibrium and acting as co-planar concurrent forces, then according to the Parallelogram law of vectors

**W = Diagonal x Scale Factor**

Where the diagonal vector represents the resultant of the forces P and Q




## OBSERVATIONS

Scale Factor 1 cm = g wt

| Trial No | P g wt | Q g wt | OA cm | OB cm | Length of the Diagonal (OD) cm | Weight of the body OD x Scale Factor (g wt) |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |

Weight of the given body = g wt = kg wt

## RESULT:

Weight of the given body = kg wt