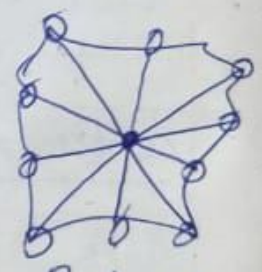


7-4-20

Body	2 centre of gravity
Rod	centre of rod
Circular body	centre of circle
Triangle	point of intersection of medians
Rectangle, Square	point of intersection of diagonals.

Q) How centre of gravity of irregular shaped body can be find out?

Ans If a body is irregular then we hang it with nail and with the help of draw a line. Then at different point hang the body and again draw a line with pulmbline. point of intersection of these lines is the centre of gravity of irregular shaped body.



Pulmbline  
at different  
and again  
pulmbline. point  
is the  
shaped

## Second Condition of Equilibrium:-

Although first condition of equilibrium is fulfilled still body can rotate.

A body is said to be in complete equilibrium if sum of all the torques acting on body are zero, sum of clockwise torque and sum of anticlockwise both should be zero  
i.e.

$$\sum \tau = 0$$



7th April 2020

3

Q) Why bottom of cars is made very down?

Answer:- When centre of gravity of body is down, body is more stable therefore bottom of car is made low so that centre of gravity is low and car become more stable and chance of accident is minimized.

Q) Define Couple, write example and mathematical form.

Answer Couple:- When two unlike parallel forces acting on body in opposite direction produces Couple in it.

For example Steering of car

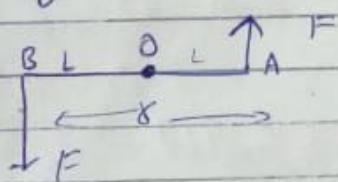
$$\text{Couple} = (F \times OA) + (F \times OB)$$

$$\text{Couple} = F(OA + OB)$$

$$\text{Couple} = F(AB)$$

$$\text{Couple} = F \times 2L$$

$$= F \times \gamma$$



7th April

Q) Define <sup>4</sup>equilibrium, write conditions of equilibrium.

Ans Equilibrium :- When no net force acting on body and body remains stable, is said to be in equilibrium.

### First Condition of Equilibrium

A body is said to be in equilibrium if all the forces acting on body should be equal to zero. i.e.

$$\Sigma F = 0$$

Sum of horizontal forces and sum of vertical forces both should be zero i.e.

$$\Sigma F_x = 0$$

$$\Sigma F_y = 0$$

v



## Modern Language School

April 2020

Physics  
Class 8-9

Q) Define centre of gravity and centre of mass?

Ans

Centre of mass :- Point of body in system, where applied force move the body without rotation. At this point entire mass of body concentrated.

Centre of gravity :-

Point where whole weight of body act vertically downward, and at this point if body is supported, it will balance.

Q) Write centre of gravity for regular shaped body.

Ans Centre of gravity for some regular shaped bodies as follows