

VIDYA BHAVAN, BALIKA VIDYAPEETH
SHAKTI UTTAN ASHRAM, LAKHISARAI, PIN:-811311

SUBJECT:- PHYSICS

CLASS:- IXTH

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SUBJECT TEACHER:- MR. NEEL NIRANJAN

CHAPTER 3. (GRAVITATION PART-2)

Circular Motion & Gravitational Force

In circular motion, a force must act on body as its direction of velocity changes. This force is called **Centripetal force**.

- When moon revolves around earth in circular path, gravitational force of earth provides the centripetal force to moon for circular motion,
- When planets revolve around Sun, gravitational force of Sun provides the centripetal force to planets.

Thrust and Pressure

Thrust: Force exerted by an object perpendicular to the surface is called thrust.

Pressure: Pressure is defined as thrust or force per unit area on a surface.

- Pressure = Thrust/Area
- SI unit of pressure is Newton/meter² (N/m²).
- SI unit of pressure is called Pascal (Pa).

Factors affecting Pressure

Pressure depends on two factors:

- (i) Force applied
- (ii) Area of surface over which force acts

Since, pressure is indirectly proportional to the surface area of the object, so, pressure increases with a decrease in surface area and decreases with an increase in surface area.

Applications of Pressure in daily life

- The base of high buildings is made wider to spread the weight of the whole building over a large surface area due to which less pressure acts on the ground.
- School bags are provided with broad straps so that the weight of school bags fall over a larger area of the shoulder and produce less pressure hence making it easy to carry.
- The blades of knives are made sharp so that on applying force on it, a large pressure is produced on the very small surface area, thus cutting the object easily.