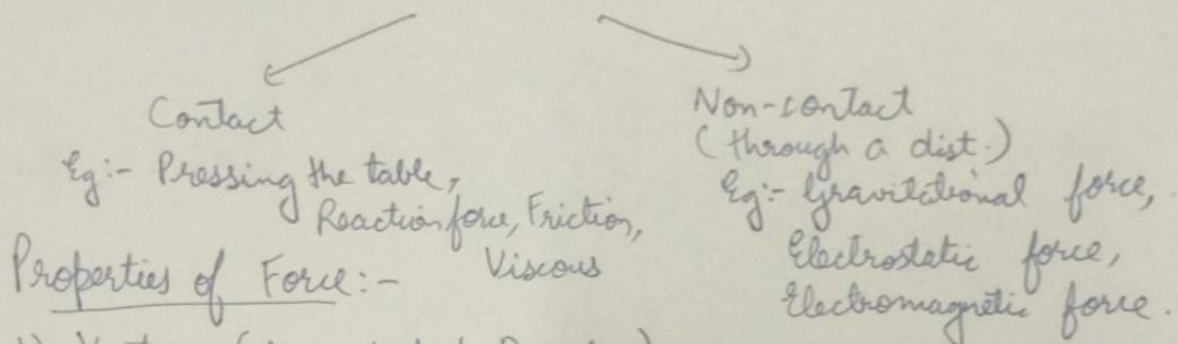


NOTES

LAWS OF MOTION :-

Force - Quantitative measure of mechanical interaction of material bodies.

Force could arise b/w bodies through



Properties of Force :-

- 1) Vector (Magnitude + Direction)
Follows vector addition.
- 2) Not dependent on the frame of reference in which force is being measured.

Quantitative effect of a force :-

Force tends to push or pull a body along its line of action, tries to alter the state of motion of a body.

* Particle : Entity of finite mass but infinitesimal size.
At a time particle occupies only 1 point in space.
Mass of particle \Rightarrow constant.

- Momentum \vec{p} :- Defined as : $\vec{p} = m\vec{v}$
 \vec{v} velocity vector
- Uniform motion :- Body moving in a straight line with constant speed. (Velocity is const.)
- No force is required to maintain the state of uniform motion.

Newton's First Law of Motion (INERTIA):-

Property of the body to maintain its state of rest or uniform motion. This property has a special Name 'Inertia', until external force is applied.

- This law is also valid when the forces acting on the body has a net force zero.
- Common Kinematic property $\Rightarrow \vec{a} = 0$.
- So if $\vec{a} = 0$, then sum of all forces applied on the ~~body~~ body is 0.