

**SUBJECT:- PHYSICS**

**CLASS:- IXTH**

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**CHAPTER 2. ( FORCE AND LAWS OF MOTION)(BASED ON NCERT PATTERN)**

**Law of conservation of momentum:-**

- Law of conservation of linear momentum is a extremely important consequence of Newton's third law of motion in combination with the second law of motion.
- According to law of conservation of momentum

When two or more bodies acts upon each other their total momentum remains constant provided no external forces are acting.

- So, *Momentum* is never created or destroyed.
- When this law is applied for a collision between two bodies, the total momentum of the colliding bodies before collision is equal to the total momentum after collision.
- We can apply this law for a collision between two vehicles. This law is applicable for all types of collisions.
- Consider two particles say A and B of mass  $m_1$  and  $m_2$  collide with each other and forces acting on these particles are only the ones they exert on each other.
- Law of conservation of linear momentum is one of the most fundamental and important principle of mechanics.
- Once again ,the total momentum of two or any number of particles of interacting particles is constant if they are isolated from outside influences (or no resultant external forces is acting on the particles).