

PHYSICS
SECTION-A

1. Newton's second law measures the
(1) acceleration (2) force (3) momentum (4) angular momentum
2. A particle of mass m is moving with velocity v_1 , it is given an impulse such that the velocity becomes v_2 . Then magnitude of impulse is equal to
(1) $m(\vec{v}_2 - \vec{v}_1)$ (2) $m(\vec{v}_1 - \vec{v}_2)$ (3) $m \times (\vec{v}_2 - \vec{v}_1)$ (4) $0.5m(\vec{v}_2 - \vec{v}_1)$
3. A large force is acting on a body for a short time. The impulse imparted is equal to the change in
(1) acceleration (2) momentum (3) energy (4) velocity
4. Glass is wrapped in straw of paper before packing. This is the application of concept of
(1) impulse (2) momentum (3) acceleration (4) force
5. Swimming is possible on account of
(1) first law of motion (2) second law of motion
(3) third law of motion (4) newton's law of gravitation
6. Rocket engines lift a rocket from the earth surface, because hot gases with high velocity
(1) push against the air (2) push against the earth
(3) react against the rocket and push it up (4) heat up the air which lifts the rocket.
7. In an explosion, a body breaks up into two pieces of unequal masses. In this
(1) both parts will have numerically equal momentum
(2) lighter part will have more momentum
(3) heavier part will have more momentum (4) both parts will have equal kinetic energy
8. A body of mass M hits normally a rigid wall with velocity V and bounces back with the same velocity. The impulse experienced by the body is
(1) MV (2) $1.5 MV$ (3) $2 MV$ (4) zero
9. The net force on a rain drop falling down with a constant speed is _____
(1) weight of drop W (2) viscous drag of air F
(3) $W + F +$ force of buoyancy (4) zero
10. A body is moving with an acceleration ' a ' under the action of a force ' g '. The weight of the body is
(1) g/a (2) $-g^2 / a$ (3) g^2 / a (4) a^2 / g