

Force and Laws of Motion

Multiple Choice Questions

Question 1.

Rocket works on the principle of conservation of:

- (a) mass
- (b) energy
- (c) momentum
- (d) velocity

▼ [Answer](#)

Answer: (c) momentum



Question 2.

Among the equal-sized stone and a football, the inertia will be higher of:

- (a) football
- (b) stone
- (c) both
- (d) none of them

▼ [Answer](#)

Answer: (b) stone

Question 3.

A batsman hits a cricket ball which then rolls on the ground. After covering a short distance, the ball comes to rest. The ball slows to a stop because:

- (a) the batsman did not hit the ball hard enough.
- (b) velocity is proportional to the force exerted on the ball.
- (c) there is a force on the ball opposing the motion.
- (d) there is no unbalanced force on the ball so the ball would want to come to rest.

▼ [Answer](#)

Answer: (c) there is a force on the ball opposing the motion.

Question 4.

What is the momentum of an object of mass m , moving with a velocity v ?

- (a) $(mv)^2$
- (b) mv^2
- (c) $\frac{1}{2} mv^2$
- (d) mv

▼ [Answer](#)

Answer: (d) mv

Question 5.

Friction is:

- (a) useful to us
- (b) harmful to us
- (c) both useful as well as harmful to us
- (d) none of them.

▼ [Answer](#)

Answer: (c) both useful as well as harmful to us



Fill in the Blanks.

Question 6.

The SI unit of momentum is _____.

▼ [Answer](#)

Answer: kgms^{-1}

Question 7.

The natural tendency of objects to resist a change in their state of rest or of uniform motion is called _____

▼ [Answer](#)

Answer: inertia

Question 8.

To every action, there is an _____ and opposite reaction.

▼ [Answer](#)

Answer: equal

Question 9.

The resultant force of balanced forces is _____

▼ [Answer](#)

Answer: zero

Question 10.

The force can change the motion, direction, or _____ of an object.

▼ [Answer](#)

Answer: shape

Question 11.

The value of inertia depends on the _____ of an object.

▼ [Answer](#)

Answer: mass



Question 12.

The rate of change of momentum of an object is _____ to the applied unbalanced force in the direction of the force.

▼ [Answer](#)

Answer: proportional

[True/False.](#)

Question 13.

In 1586, Galileo Galilei wrote his first scientific book 'The Little Balance'.

▼ [Answer](#)

Answer: True

Question 14.

In practical situations, it is difficult to achieve a zero balanced force.

▼ [Answer](#)

Answer: False

Question 15.

Force is a scalar quantity.

▼ [Answer](#)

Answer: False

Question 16.

The mass of an object is a measure of its inertia.

▼ [Answer](#)

Answer: True

Question 17.

In an isolated system, the total momentum remains conserved.

▼ [Answer](#)

Answer: True



Match the Column.

Question 18.

A	B
1. Unit of force	(i) Mass \times acceleration
2. Unit of pressure	(ii) kgms^{-1}
3. Test of purity of milk	(iii) Pascal
4. Force	(iv) Lactometer
5. S.I unit of momentum	(v) Newton

▼ [Answer](#)

Answer:

A	B
1. Unit of force	(v) Newton
2. Unit of pressure	(iii) Pascal
3. Test of purity of milk	(iv) Lactometer
4. Force	(i) Mass \times acceleration
5. SI unit of momentum	(ii) kgms^{-1}

Answer in one Word/Sentence.

Question 19.

Write the unit of pressure.

▼ [Answer](#)

Answer: Nm^{-1} or pascal

Question 20.

A body is moving with constant velocity, then what will be the acceleration of that body?

▼ [Answer](#)

Answer: Zero (0)

Question 21.

Write the S.I unit of force.

▼ [Answer](#)

Answer: Newton

Question 22.

On what factor the inertia of an object depends?

▼ [Answer](#)

Answer: On mass

Question 23.

Express the second law of motion of newton in the context of the equation of momentum.

▼ [Answer](#)

Answer: Force = $\frac{\text{Change in momentum } \Delta P}{\text{time}} = \frac{m(v-u)}{t}$

