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) $\frac{1}{2}$ mv²
- (d) mv

▼ Answer

Answer: (d) mv

Ouestion 5.

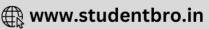
Friction is:

- (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 × 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 × acceleration

5. SI unit of momentum (ii) kgms⁻¹

Answer in one Word/Sentence.

Ouestion 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)

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

