

## Laws of Motion – Objective Questions (MCQs)

---

**1. Newton's First Law is also called the law of:**

- A) Force
  - B) Inertia
  - C) Momentum
  - D) Acceleration
- 

**2. The tendency of a body to resist a change in its state of motion is called:**

- A) Force
  - B) Momentum
  - C) Inertia
  - D) Friction
- 

**3. A force of 10 N is applied to a body of mass 2 kg. The acceleration produced is:**

- A)  $2 \text{ m/s}^2$
  - B)  $5 \text{ m/s}^2$
  - C)  $10 \text{ m/s}^2$
  - D)  $20 \text{ m/s}^2$
- 

**4. Newton's second law of motion gives the measure of:**

- A) Inertia
  - B) Force
  - C) Momentum
  - D) Acceleration
- 

**5. The SI unit of force is:**

- A) Kilogram
  - B) Newton
  - C) Dyne
  - D) Pascal
- 

**6. A body is in equilibrium when:**

- A) Net force is zero
- B) Acceleration is maximum
- C) Velocity is zero
- D) Force is maximum

---

**7. Which of the following is not a contact force?**

- A) Friction
  - B) Tension
  - C) Gravitational force
  - D) Normal force
- 

**8. When no external force acts on a system, total momentum:**

- A) Increases
  - B) Decreases
  - C) Remains constant
  - D) Becomes zero
- 

**9. Action and reaction forces:**

- A) Act on the same body
  - B) Act on different bodies
  - C) Are unequal in magnitude
  - D) Cancel each other
- 

**10. A horse pulls a cart. The cart also pulls the horse with an equal and opposite force. Still the horse moves because:**

- A) Horse is stronger
  - B) Ground provides external force
  - C) Action-reaction cancel out
  - D) Friction is absent
- 

**11. Which law explains the recoil of a gun?**

- A) Newton's first law
  - B) Newton's second law
  - C) Newton's third law
  - D) Law of conservation of energy
- 

**12. What is the acceleration of a 4 kg mass under a force of 20 N?**

- A)  $4 \text{ m/s}^2$
  - B)  $5 \text{ m/s}^2$
  - C)  $10 \text{ m/s}^2$
  - D)  $80 \text{ m/s}^2$
-

**13. Which of the following quantities is conserved in an isolated system?**

- A) Force
  - B) Energy
  - C) Momentum
  - D) Velocity
- 

**14. Inertia depends on:**

- A) Velocity
  - B) Acceleration
  - C) Mass
  - D) Force
- 

**15. Friction always acts:**

- A) In the direction of motion
  - B) Opposite to the direction of motion
  - C) Perpendicular to motion
  - D) In direction of acceleration
- 

**16. A body of mass 3 kg is moving with a velocity of 4 m/s. Its momentum is:**

- A) 7 kg·m/s
  - B) 12 kg·m/s
  - C) 1.33 kg·m/s
  - D) 3 kg·m/s
- 

**17. The net force acting on a body moving with constant velocity is:**

- A) Positive
  - B) Negative
  - C) Zero
  - D) Maximum
- 

**18. Which of the following is a non-contact force?**

- A) Tension
  - B) Friction
  - C) Gravitational force
  - D) Air resistance
- 

**19. When two bodies interact, they exert forces on each other that are:**

- A) Equal and opposite
  - B) Equal and same direction
  - C) Unequal and same direction
  - D) Unequal and opposite
- 

**20. The product of mass and acceleration is:**

- A) Velocity
  - B) Force
  - C) Inertia
  - D) Power
- 

**Answer Key**

- 1. B
- 2. C
- 3. B
- 4. B
- 5. B
- 6. A
- 7. C
- 8. C
- 9. B
- 10. B
- 11. C
- 12. B
- 13. C
- 14. C
- 15. B
- 16. B
- 17. C
- 18. C
- 19. A
- 20. B