

## CHAPTER-8 | Force and Laws of Motion

QUIZ  
PART-05

1. Newton's third law states that:

- A. Equal and opposite reactions
- B. Force = mass  $\times$  acceleration
- C. Objects remain at rest
- D. Velocity changes (A)

*Explanation:* Every action has an equal and opposite reaction.

2. In firing a gun, the bullet moves due to:

- A. Inertia
- B. Reaction force
- C. Gravitational force
- D. Momentum (B)

*Explanation:* The bullet moves due to the reaction force from the gun.

3. Recoil of a gun is an example of:

- A. Newton's first law
- B. Newton's third law
- C. Friction
- D. Speed (B)

*Explanation:* The recoil is the equal and opposite reaction to firing the bullet.

4. The swimmer moves forward by pushing water backward due to:

- A. Friction
- B. Action and reaction
- C. Momentum
- D. Gravitational force (B)

*Explanation:* The swimmer's forward motion is due to the reaction force from the water.

5. The force exerted by the Earth on an object is:

- A. Gravitational force
- B. Normal force
- C. Action force
- D. Friction (A)

*Explanation:* The Earth exerts a gravitational force on the object.

6. A rocket's motion is caused by:

- A. Acceleration
- B. Reaction force
- C. Inertia
- D. Friction (B)

*Explanation:* The rocket moves upwards due to the reaction force of expelling gases downward.

7. Action and reaction forces are:

- A. Equal in magnitude and opposite in direction
- B. Unequal
- C. Acting on the same object
- D. Independent (A)

*Explanation:* Action and reaction forces are always equal and opposite.

8. When you push a wall, the wall pushes you back.

This is an example of:

- A. Momentum
- B. Inertia
- C. Newton's third law
- D. Gravitational force (C)

*Explanation:* This is an example of Newton's third law of motion.

9. The momentum of a moving car is:

- A. Zero
- B. Equal to force
- C. Mass  $\times$  velocity
- D. Zero at all times (C)

*Explanation:* Momentum is calculated as mass  $\times$  velocity.

10. A car's tires exert force on the road. According to Newton's third law, the road exerts force on the tires in:

- A. The opposite direction
- B. The same direction
- C. Zero direction
- D. No force (A)

*Explanation:* The force exerted by the tires on the road has an equal and opposite reaction.