

CHAPTER-8 | Force and Laws of Motion

QUIZ
PART-06

1. Momentum depends on:

- A. Mass
- B. Velocity
- C. Mass and velocity
- D. Speed (C)

Explanation: Momentum = mass \times velocity.

2. The unit of momentum is:

- A. kg
- B. N·s
- C. m/s
- D. m/s^2 (B)

Explanation: Momentum's unit is Newton-seconds (N·s).

3. Impulse changes the:

- A. Velocity
- B. Force
- C. Momentum
- D. Speed (C)

Explanation: Impulse is the change in momentum.

4. Impulse is the product of:

- A. Force and mass
- B. Force and time
- C. Velocity and time
- D. Mass and velocity (B)

Explanation: Impulse = Force \times time.

5. If mass doubles, momentum will:

- A. Stay same
- B. Double
- C. Half
- D. Become zero (B)

Explanation: Momentum is directly proportional to mass.

6. If velocity increases, momentum:

- A. Stays same
- B. Increases
- C. Decreases
- D. Becomes zero (B)

Explanation: Momentum increases with velocity.

7. Formula for impulse is:

- A. $F = ma$
- B. $J = F \times t$
- C. $p = mv$
- D. $J = mv$ (B)

Explanation: Impulse is Force \times time.

8. Momentum of a 5 kg object moving at 4 m/s is:

- A. 1 kg·m/s
- B. 5 kg·m/s
- C. 20 kg·m/s
- D. 25 kg·m/s (C)

Explanation: Momentum = mass \times velocity = 5 \times 4 = 20 kg·m/s.

9. Impulse can be used to change:

- A. Speed
- B. Direction
- C. Momentum
- D. Distance (C)

Explanation: Impulse changes momentum.

10. Applying brakes on a car reduces its momentum.

This is an example of:

- A. Acceleration
- B. Impulse
- C. Force
- D. Speed (B)

Explanation: Brakes apply impulse, changing momentum.