

CHAPTER-8 | Force and Laws of Motion

QUIZ
PART-04

1. Impulse is the product of:

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

Explanation: Impulse = Force \times Time.

2. SI unit of impulse is:

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

Explanation: Impulse's SI unit is Newton-second (N·s).

3. Change in momentum is equal to:

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

Explanation: Change in momentum = Impulse.

4. The momentum-impulse theorem relates to:

- A. Force and velocity
- B. Mass and time
- C. Force and time
- D. Acceleration and speed (C)

Explanation: Momentum change equals the impulse applied.

5. When a car stops, the braking force is:

- A. In the direction of motion
- B. Opposite to the direction of motion
- C. Horizontal
- D. Vertical (B)

Explanation: Braking force acts opposite to motion.

6. The unit of momentum is:

- A. N·s
- B. kg·m/s
- C. m/s²
- D. m/s (B)

Explanation: Momentum's unit is kg·m/s.

7. A car's momentum decreases to zero when it stops. This is due to:

- A. Zero force
- B. Impulse
- C. Inertia
- D. Gravitational force (B)

Explanation: Impulse decreases momentum to zero.

8. A wicketkeeper's gloves reduce:

- A. Speed
- B. Impact time
- C. Acceleration
- D. Impulse (B)

Explanation: Gloves increase impact time, reducing force.

9. A negative sign in braking force indicates:

- A. Speeding up
- B. Opposite direction to motion
- C. No change in motion
- D. Forward motion (B)

Explanation: Negative force means opposite to motion.

10. Impulse is equal to the change in:

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

Explanation: Impulse causes a change in momentum.