1. Newton's second law of motion is:
   A. F = ma
   B. F = m/g
   C. v = u + at
   D. F = mv (A)

Explanation : F = ma represents Newton's second law.

2. SI unit of force is:
   A. Kg
   B. m/s
   C. Newton (N)
   D. Watt (C)

Explanation : The SI unit of force is Newton.

3. The acceleration of an object is directly proportional to the:
   A. Force
   B. Mass
   C. Speed
   D. Time (A)

Explanation : Acceleration increases with applied force (F = ma).

4. If mass is doubled, acceleration will:
   A. Double
   B. Remain same
   C. Half
   D. Become zero (A)

Explanation : Doubling mass increases the force needed to maintain acceleration.

5. Weight is the force due to:
   A. Inertia
   B. Gravity
   C. Acceleration
   D. Friction (B)

Explanation : Weight is the gravitational force acting on an object.

6. Momentum is calculated by:
   A. $p = mv$
   B. $p = ma$
   C. $p = mv^2$
   D. $p = m + v$ (A)

Explanation : Momentum (p) = mass (m) × velocity (v).

7. If force is 50 N and mass is 5 kg, acceleration is:
   A. 5 m/s^2
   B. 10 m/s^2
   C. 15 m/s^2
   D. 50 m/s^2 (B)

Explanation : $a = F/m = 50\ N / 5\ kg = 10\ m/s^2$.

8. The formula w = mg gives the:
   A. Mass
   B. Inertia
   C. Weight
   D. Force (C)

Explanation : w = mg calculates the weight of an object.

9. Doubling the force applied to an object will:
   A. Increase acceleration
   B. Decrease acceleration
   C. No effect on acceleration
   D. Stop the object (A)

Explanation : Doubling force increases acceleration (F = ma).

10. A body's momentum is zero if its velocity is:
    A. Constant
    B. Zero
    C. Maximum
    D. Increasing (B)

Explanation : Zero velocity means zero momentum (p = mv).