Motion in Straight Line

Multiple Choice Questions (MCQs) on Terms and Definitions of Motion in a Straight Line

1. **Which of the following is a vector quantity?**
   - a) Distance
   - b) Speed
   - c) Displacement
   - d) Time
2. **The rate at which an object covers distance is called:**
   - a) Velocity
   - b) Speed
   - c) Acceleration
   - d) Displacement
3. **What is the unit of acceleration?**
   - a) m/s
   - b) m/s^2
   - c) m
   - d) s
4. **Which equation represents the first equation of motion?**
   - a) $v = u + at$
   - b) $s = ut + \frac{1}{2}at^2$
   - c) $v^2 = u^2 + 2as$
   - d) None of the above
5. **Which term describes the shortest straight-line distance from the initial to the final position?**
   - a) Distance
   - b) Speed
   - c) Displacement
   - d) Acceleration
6. **If an object is moving with a constant velocity, what is its acceleration?**
   - a) Positive
   - b) Negative
   - c) Zero
   - d) Cannot be determined
7. **What is the slope of a position-time graph equal to?**
   - a) Speed
   - b) Velocity
   - c) Acceleration
   - d) Displacement
8. **The total distance traveled divided by the total time taken gives:**
   - a) Average Speed
   - b) Instantaneous Speed

- c) Average Velocity
- d) Instantaneous Velocity

9. **Which of the following quantities can be negative?**
   - a) Speed
   - b) Distance
   - c) Displacement
   - d) Time
10. **In uniform acceleration, the velocity-time graph is:**
   - a) A curve
   - b) A straight line
   - c) A horizontal line
   - d) A vertical line
11. **What is the definition of instantaneous velocity?**
   - a) Total displacement divided by total time
   - b) Speed at a particular moment
   - c) Velocity at a specific instant
   - d) None of the above
12. **If a car's velocity changes from 10 m/s to 20 m/s in 5 seconds, what is its acceleration?**
   - a) 2 m/s^2
   - b) 4 m/s^2
   - c) 5 m/s^2
   - d) 10 m/s^2
13. **Which term refers to the motion of an object under the influence of gravitational force only?**
   - a) Uniform Motion
   - b) Free Fall
   - c) Relative Motion
   - d) Translational Motion
14. **What does the area under a velocity-time graph represent?**
   - a) Speed
   - b) Displacement
   - c) Acceleration
   - d) Time
15. **Which of the following describes deceleration?**
   - a) Positive acceleration
   - b) Zero acceleration
   - c) Negative acceleration
   - d) Constant acceleration

Answer Key

1. c) Displacement
2. b) Speed
3. b) m/s^2
4. a) $v = u + at$
5. c) Displacement
6. c) Zero
7. b) Velocity
8. a) Average Speed

9. c) Displacement
10. b) A straight line
11. c) Velocity at a specific instant
12. a) 2 m/s^2
13. b) Free Fall
14. b) Displacement
15. c) Negative acceleration