

# Motion in Straight Line



## Multiple Choice Questions (MCQs) on Introduction to Motion

1. Which of the following best describes motion?

- a) Change in speed of an object
- b) Change in position of an object with respect to time
- c) Change in direction of an object
- d) Change in shape of an object

2. Which type of motion does a spinning top exhibit?

- a) Translational
- b) Rotational
- c) Oscillatory
- d) Random

3. What type of motion does a pendulum exhibit?

- a) Translational
- b) Rotational
- c) Oscillatory
- d) Linear

4. Which of the following is a scalar quantity?

- a) Displacement
- b) Velocity
- c) Acceleration
- d) Distance

5. Which of the following is a vector quantity?

- a) Speed
- b) Mass
- c) Time
- d) Velocity

6. What is the key difference between speed and velocity?

- a) Speed includes direction, velocity does not
- b) Velocity includes direction, speed does not
- c) Speed is a vector, velocity is a scalar
- d) There is no difference

7. A car travels 100 km north in 2 hours. What is its velocity?

- a) 50 km/h
- b) 100 km/h
- c) 50 km/h north
- d) 100 km/h north

8. If an object moves in a straight line at a constant speed, which of the following is true?

- a) The object is accelerating
- b) The object's velocity is changing
- c) The object's speed is constant but velocity changes
- d) The object's speed and velocity are constant

9. What does the area under a velocity-time graph represent?

- a) Speed
- b) Acceleration
- c) Displacement
- d) Time

10. **An example of translational motion is:**

- a) The Earth rotating on its axis
- b) A child on a swing
- c) A car driving on a highway
- d) A spinning wheel

11. **An example of a vector quantity in daily life is:**

- a) Speedometer reading
- b) Thermometer reading
- c) Weight of an object
- d) Distance walked

12. **Which of the following is true about oscillatory motion?**

- a) It is always linear
- b) It repeats after a fixed interval of time
- c) It involves only rotational motion
- d) It is non-repetitive

13. **What is the velocity of a cyclist who travels 15 km west in 3 hours?**

- a) 5 km/h
- b) 15 km/h
- c) 5 km/h west
- d) 15 km/h west

14. **Which term is defined as the total path length covered by an object?**

- a) Displacement
- b) Velocity
- c) Distance
- d) Acceleration

15. **The motion of a ceiling fan is an example of:**

- a) Translational motion
- b) Rotational motion
- c) Oscillatory motion
- d) Random motion

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## Answer Key

1. b) Change in position of an object with respect to time
2. b) Rotational
3. c) Oscillatory
4. d) Distance
5. d) Velocity
6. b) Velocity includes direction, speed does not
7. c) 50 km/h north
8. d) The object's speed and velocity are constant
9. c) Displacement
10. c) A car driving on a highway
11. c) Weight of an object
12. b) It repeats after a fixed interval of time
13. c) 5 km/h west

14. c) Distance

15. b) Rotational motion