Speed

A. Choose the Correct Answer:

1. What is the formula for speed?

- A) Speed = Distance × Time
- B) Speed = Distance ÷ Time
- C) Speed = Time ÷ Distance
- D) Speed = Distance + Time

2. If a car travels 100 km in 2 hours, what is its speed?

- A) 25 km/h
- B) 50 km/h
- C) 75 km/h
- D) 100 km/h

3. Which of the following best describes uniform speed?

- A) Speed that increases over time
- B) Speed that decreases over time
- C) Speed that remains constant over time
- D) Speed that changes randomly

B. Fill in the Blanks:

- 1. The SI unit of speed is _____.
- 2. A vehicle moving with varying speed is said to be in _____ motion.
- 3. The speed of sound is much ______ than the speed of light.

C. Case Study:

A school organized a bicycle race to study the speed of different participants. The race covered a distance of 10 km. Three students participated:

- Student A completed the race in 20 minutes.
- Student B completed the race in 25 minutes.
- Student C completed the race in 30 minutes.

After the race, the teacher asked the students to calculate their average speed.

Case Study Questions:

- 1. How can the students calculate their speed?
- 2. Which student had the highest speed?

- 3. If Student C wants to improve their speed, what factors could they consider?
- 4. Why is it important to maintain a steady speed in a race?

D. Short Answer Questions:

- 1. Define speed and mention its SI unit.
- 2. How does speed differ from velocity?
- 3. Why do different vehicles have different speed limits on roads?

E. Long Answer Questions:

- 1. Explain the difference between uniform speed and non-uniform speed with examples.
- 2. How does friction affect the speed of moving objects?
- 3. Describe the factors that affect the speed of a moving object, giving real-life examples.