SPEED AND VELOCITY

1. Distinguish between speed and velocity.

2. Under what condition(s) is the magnitude of average velocity of an object equal to its average speed?

3. What does the odometer of an automobile measure?

4. What does the path of an object look like when it is in uniform motion?

5. During an experiment, a signal from a spaceship reached the ground station in five minutes.

 What was the distance of the spaceship from the ground station? The signal travels at the

 speed of light, that is, 3 × 108 m s–1.

6. The odometer of a car reads 2000 km at the start of a trip and 2400 km at the end of the trip. If the

 trip took 8 h, calculate the average speed of the car in km h–1 and m s–1.

7. Usha swims in a 90 m long pool. She covers 180 m in one minute by swimming from one end to the

 other and back along the same straight path. Find the average speed and average velocity of Usha.