# Science

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#### (Chapter – 8) (Motion)

(Class – IX)

# Final Page 102 Final

#### **Question 1:**

Distinguish between speed and velocity.

#### Answer 1:

Speed has only magnitude while velocity has both magnitude and direction. So speed is a scalar quantity but velocity is a vector quantity.

# **Question 2:**

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

#### Answer 2:

The magnitude of average velocity of an object will be equal to its average speed in the condition of uniform velocity in a straight line motion.

#### **Question 3:**

What does the odometer of an automobile measure?

#### Answer 3:

In automobiles, odometer is used to measure the distance.

# **Question 4:**

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

#### Answer 4:

In the case of uniform motion, the path of an object will look like a straight line.

# **Question 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,  $3 \times 10^8 \text{ ms}^{-1}$ .

# Answer 5:

Here we have, speed =  $3 \times 10^8$  m/s Time = 5 minute =  $5 \times 60$  s = 300 s Using, Distance = Speed × Time  $\Rightarrow$  Distance =  $3 \times 10^8 \times 300$  m =  $900 \times 10^8$  m=  $9.0 \times 10^{10}$  m

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