Bal Bharati Public School, Navi Mumbai
Session 2020-21
Class IX
Physics
Motion, Worksheet 2

Q1. What does the odometer of an automobile measure? Which of the following is moving faster? Justify your answer.
(i) A scooter moving with a speed of 300 m per minute.
(ii) A car moving with a speed of 36 km per hour.

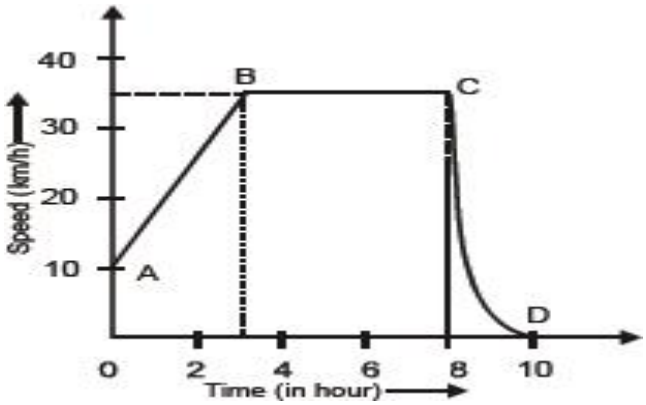
Q2. A car travels from stop A to stop B with a speed of 30 km/h and then returns back to A with a speed of 50 km/h. Find
(i) displacement of the car.
(ii) distance travelled by the car.
(iii) average speed of the car.

Q3. Draw the shape of the distance-time graph for uniform and non-uniform motion of object. An object travels 20 m in 2 s and then another 16 m in 2 s. What is the average speed of the object?

Q4. A bus accelerates uniformly from 54 km/h to 72 km/h in 10 seconds Calculate
(i) acceleration in m/s^2
(ii) distance covered by the bus in meters during this interval.

Q5. A circular track has a circumference of 3140 m with AB as one of its diameters. A scooterist moves from A to B along the circular path with a uniform speed of 10 m/s. Find
(a) distance covered by the scooterist,
(b) displacement of the scooterist, and
(c) time taken by the scooterist in reaching from A to B.

Q6. The graph given alongside shows how the speed of a car changes with time.
(i) What is the initial speed of the car?
(ii) What is the maximum speed attained by the car?
(iii) Which part of the graph shows zero acceleration?
(iv) Which part of the graph shows varying retardation?
(v) Find the distance travelled in first 8 hours.



Q7. (a) Define average speed.

(b) A bus travels a distance of 120 km with a speed of 40 km/h and returns with a speed of 30 km/h. Calculate the average speed for the entire journey.

Q8. Velocity-time graph for the motion of an object in a straight path is a straight line parallel to the time axis.

(a) Identify the nature of motion of the body.

(b) Find the acceleration of the body.

(c) Draw the shape of distance-time graph for this type of motion.

Q9. A train 100 m long is moving with the velocity of 72 km/hr. Find the time it takes to cross the bridge which is 2 km long?

Q10. The velocity-time graph shows the motion of a cyclist. Find

(i) its acceleration

(ii) its velocity

(iii) the distance covered by the cyclist in 15 seconds