

## MOTION AND TIME-EXTRA QS

1. Classify the following as motion along a straight line, circular or oscillatory motion:

- (i) Motion of your hands while running. -
- (ii) Motion of a horse pulling a cart on a straight road.
- (iii) Motion of a child in a merry-go-round.
- (iv) Motion of a child on a see-saw.
- (v) Motion of the hammer of an electric bell

2. Motion of a train on a straight bridge. -

3. Which of the following are not correct?

- (i) The basic unit of time is second.
- (ii) Every object moves with a constant speed.
- (iii) Distances between two cities are measured in kilometers.
- (iv) The time period of a given pendulum is constant.
- (v) The speed of a train is expressed in m/h.

4. A simple pendulum takes 32 s to complete 20 oscillations. What is the time period of the pendulum?

5. The distance between two stations is 240 km. A train takes 4 hours to cover this distance. Calculate the speed of the train.

6. The odometer of a car reads 57321.0 km when the clock shows the time 08:30 AM. What is the distance moved by the car, if at 08:50 AM, the odometer reading has changed to

57336.0 km? Calculate the speed of the car in km/min during this time. Express the speed in km/h also.

7. Arun takes 15 minutes from her house to reach her school on a bicycle. If the bicycle has a speed of 2 m/s, calculate the distance between her house and the school.

8. Show the shape of the distance-time graph for the motion in the following cases:

- (i) A car moving with a constant speed.
- (ii) A car parked on a side road.

9. Which of the following relations is correct?

- (i) Speed = Distance  $\times$  Time
- (ii) Speed = Distance/Time
- (iii) Speed = Time/Distance
- (iv) Speed = 1/Distance  $\times$  Time

10. The basic unit of speed is:

- (i) km/min            (ii) m/min            (iii) km/h            (iv) m/s

11. A car moves with a speed of 40 km/h for 15 minutes and then with a speed of 60 km/h for the next 15 minutes. The total distance covered by the car is:

- (i) 100 km            (ii) 25 km            (iii) 15 km            (iv) 10 km