

# SARALA BIRLA PUBLIC SCHOOL

Birla Knowledge City, Mahilong, Ranchi

CLASS-IX, (2020-21)

Sub: Physics

Assignment-5

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1. A particle is moving in a circular path of radius  $r$ . The displacement after half a circle would be:

- (a) Zero
- (b)  $\pi r$
- (c)  $2r$
- (d)  $2\pi r$

2. A body is thrown vertically upward with velocity  $u$ ; the greatest height  $h$  to which it will rise is,

- (a)  $u/g$
- (b)  $u^2/2g$
- (c)  $u^2/g$
- (d)  $u/2g$

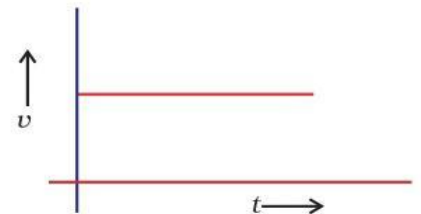
3. The numerical ratio of displacement to distance for a moving object is

- (a) Always less than 1
- (b) Always equal to 1
- (c) always more than 1
- (d) Equal or less than 1

4. If the displacement of an object is proportional to square of time, then the object moves with

- (a) Uniform velocity
- (b) Uniform acceleration
- (c) increasing acceleration
- (d) Decreasing acceleration

5. From the given  $v - t$  graph, it can be inferred that the object is



- (a) In uniform motion
- (b) At rest
- (c) In non-uniform motion
- (d) Moving with uniform acceleration

6. Slope of a velocity – time graph gives:

- (a) the distance
- (b) the displacement
- (c) the acceleration
- (d) the speed

7. A particle travels 100 metres after starting from rest in 10 seconds. Its acceleration is

(a)  $2 \text{ m/s}^2$

(b)  $4 \text{ m/s}^2$

(c)  $1 \text{ m/s}^2$

(d)  $20 \text{ m/s}^2$

8. In uniform circular motion, velocity of particle is

(a) constant

(b) variable in magnitude

(c) variable in direction

(d) both (a) and (b)

9. Velocity of a particle increases from  $10 \text{ m/s}$  to  $15 \text{ m/s}$  after travelling a distance of  $5 \text{ metre}$ . Its acceleration is

(a)  $12.5 \text{ m/s}^2$

(b)  $125 \text{ m/s}^2$

(c)  $1.25 \text{ m/s}^2$

(d)  $0.125 \text{ m/s}^2$

<sup>10</sup> In which of the following cases of motions, the distance moved and the magnitude of displacement are equal?

(a) The car is moving on straight road

(b) The car is moving in circular path

(c) The pendulum is moving to and fro

(d) The earth is revolving around the Sun

**Project:** Draw the a) distance-time graph and b) velocity-time graph for different cases on a chart paper. Use graph paper for showing different graphs.