KALPAVRUKSHA MODEL SCHOOL

ASSIGNMENT- 1 ANSWERS

Class: IX   **Sub: Physics**   **Date: 26.05.2021**

Topic: Motion

I. Complete the assignment questions given below.

1. Define rest and motion.

Ans: <u>**Rest:**</u> A body is said to be at rest, if it doesn't change its position with respect to time and surroundings.

<u>**Motion:**</u> A body is said to be in motion, if it changes its position continuously with respect to time and surrounding.

2. What are the characteristics of a moving body?

Ans: i) There must be a reference point to describe the position of the given body.

   ii) The position of the given body must continuously change with time and with respect to the reference point.

3. Differentiate between scalar and vector quantities.

Ans: Scalar quantity: i) They are expressed in magnitude only

   ii) They can be added by simple airthematic means

   iii) They cannot be easily plotted on graph

   Vector quantity: i) They are expressed in magnitude and direction

   ii) They cannot be added by simple airthematic means

iii) They can be easily plotted on graph

4. Define displacement. Explain positive, negative and zero displacement.

Ans: The shortest path between the initial and final position of the body.

Positive Displacement: The displacement of a body is said to be positive, if the final position of body lies on the right side of initial position.

Negative Displacement: The displacement of a body is said to be positive, if the final position of body lies on the left side of initial position.

Zero Displacement: When a moving body returns back to its initial position, the shortest distance between the final and initial position is zero. So displacement is zero.

5. What is the SI unit of speed?

Ans: metre per second (m/s)

6. Define uniform and non-uniform motion.

Ans: <u>Uniform motion:</u> A body is said to be in uniform motion if it covers equal distance in equal intervals of time.

<u>Non-Uniform motion:</u> A body is said to be in non-uniform motion if it covers unequal distance in equal intervals of time.

7. Define velocity. Write its SI unit.

Ans: The speed of a body in a specified direction is called velocity. SI unit is m/s

8. Differentiate between speed and velocity.

Ans: <u>Speed:</u> i) The distance covered per unit time is called speed.

ii) It is scalar quantity

iii) It can never be zero for moving body

<u>Velocity :</u> i) The distance covered per unit time in a specified direction is called velocity

ii) It is vector quantity

iii) It can be zero, when displacement is zero.

9. Define average speed.

Ans: The average speed is defined as the total distance travelled by total time taken.

10. A cyclist covers a distance of 1.5km in 2.5 minutes. Calculate his speed in m/s.

Ans: distance=1.5 km=1.5*1000=1500 m

Time =2.5 min=2.5*60=150 sec

Speed =d/t=1500/150=**10 m/sec**

In km/h

10*18/5=2*18=**36 km/hr**

*Pending for approval