INDIAN SCHOOL NIZWA - WORKSHEET

PHYSICS
CH:8 MOTION

Name: _____ Date:_____ Class: IX Sec: ___

I FILL IN THE BLANKS

1 .The slope of d-t graph gives the …… of the motion.

2. Area below v-t graph is the measure of ……

3. Acceleration is the rate of change of.……

4. Velocity is measured in.……

5. Displacement is a ……..quantity whereas distance is a ……..quantity.

II SHORT ANSWER TYPE

1. Draw a velocity-time graph for the following motion:

A car accelerates uniformly from rest for 5s, and then it travels at a steady velocity for 5s.

2. What happens to speed, velocity, and acceleration when an object moves in a circle with uniform speed?

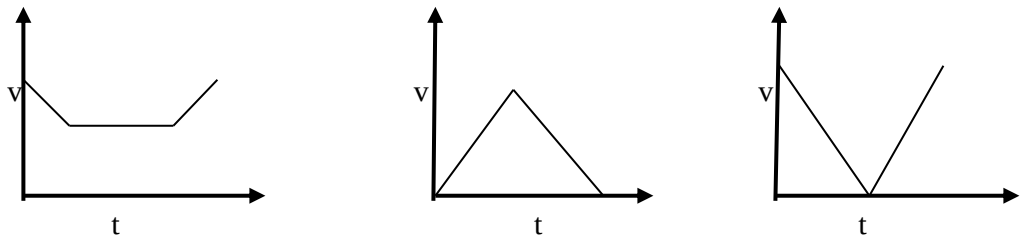
3. Identify the following as scalar or vector quantities: - mass, velocity, speed, distance, displacement, temperature, force, weight, power, work and energy..

4. An object goes from point x to y and then come back from y to x. what is the displacement and average velocity?

5. When an object is thrown upwards, what is the velocity and acceleration at the highest point of motion of the object?

6. Three speed time graph is shown. Which of them represents the case of?

(a) A cricket ball thrown vertically upwards and returning to the hands of the thrower.
(b) A trolley decelerating to a constant speed and then accelerating uniformly.



7. What is the numerical ratio of average velocity to average speed of an object moving along a straight line path?

III NUMERICALS

1. Nisha swims in a 90 m long pool. She covers 180m in one minute by swimming from one end to the other and back along the same straight path. Find the average speed and average velocity of Nisha.

2. A bus decreases its speed from 80 km/h to 60 km/h is 5 second. Find the acceleration of the bus.

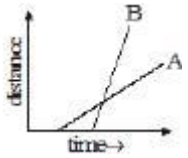
3. A train starting from a railway station and moving with uniform acceleration attains a speed 40 km/h in 10 minutes. Find its acceleration.

4. A bus between Kota to Jaipur passed the 100 km, 160 km and 220 km points at 10.30 am, 11.30 am and 1.30 pm. find the average speed of the bus during each of the following intervals:
(a) 10.30 am to 11.30 am (b) 11.30 am to 1.30 pm and (c) 10.30 am to 1.30 pm.

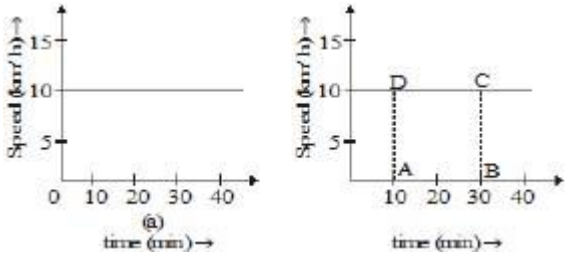
5. The average speed of a bicycle, an athlete and car are 18 km/h, 7 m/s and 2 km/min. respectively. Which of the three is the fastest and which is the slowest?

6. An object is sliding down on inclined plane. The velocity changes at a constant rate from 10 cm/s to 15 cm/s in 2 seconds. What is its acceleration?

7. Figure shows distance-time graph of two objects A and B. Which object is moving with greater speed when both are moving?



8. Figure represents the speed time graph for a particle. Find the distance covered by the particle between t = 10 min. and t = 30 min.



9. A sound is heard 5 seconds later than the lightning is seen in the sky on a rainy day. Find the distance of the location of lightning. Given speed of sound = 346 ms^{-1}.

10. A Bus starting from rest moves with a uniform acceleration of 0.1 m/s^2 for 2 minute. Find

a) The speed
b) Distance travelled