INTERNATIONAL INDIAN SCHOOL, RIYADH.
SAI WORKSHEET-2015-16
SUBJECT: PHYSICS

STD: IX

MOTION:

1. Can the average speed of a moving object be zero? Why?
2. Give an example of a motion in which acceleration of an object is against the direction of motion.
3. A cyclist rides his cycle with a speed of 30 m/s for the first half and the next half-length he covers with a speed of 45 m/s. Find the average speed of the cyclist.
4. A body moving in a circle of radius 'r', covers ¾th of the circle. Find the ratio of the distance to displacement.
5. List the important of velocity-time graph?
6. A train starting from rest attains a velocity of 20m/s in 2 minutes. Assuming that the acceleration is uniform, find (I) the acceleration (II) distance travelled by the train, while it attained this velocity.
7. How long will it take for a body accelerating by 2 m/s² to gain a velocity of 10 m/s, starting from rest?
8. Write and derive the equations of motion involving uniform acceleration.
9. Define a vector quantity giving examples.
10. A car starts from rest and accelerates with 2 m/s2 for 10 seconds, After maintaining the velocity for 10 seconds, it comes to rest decelerating 1 m/s2 i) Draw the shape of V-t graph. II) Find the maximum velocity attained and the total distance travelled during the journey.
11. The brakes applied to a car produce a negative acceleration of 10 m/s². If the car takes 5 s to stop after applying brakes, calculate the distance covered by the car before coming to rest.
12. Draw a velocity-time graphs for the following (a) A body moving with a uniform acceleration. (b) Uniform retardation (c) Zero acceleration.
13. Name a physical quantity that (i) varies (ii) remains same in a uniform circular motion.

14. An object is dropped from rest at a height of 150 m and simultaneously another object is dropped from rest at a height 100 m. What is the difference in their heights after 2 s if both the object drops with same acceleration?

15. Why does an athlete rotate his body before throwing a hammer or disc?