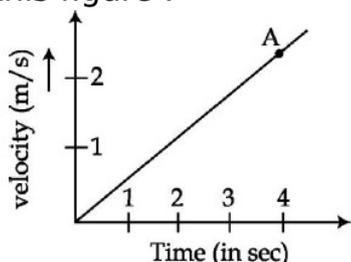


Sharjah Indian School, Sharjah

HOLIDAY ASSIGNMENT in Physics for Class IX (2016 - 17)

1. Does velocity of an object remain constant in uniform circular motion?
2. Two balls of different masses are thrown vertically upwards with same velocity. Which one of them will rise to the greater height?
3. A cyclist goes around a circular track of diameter 105m in 5min. Calculate his speed and velocity at the end of 7minutes 30seconds.
4. A car accelerates uniformly from 18 Km/h to 36 Km/h in 5 s. Calculate
(a) the acceleration and
(b) the distance covered by the car in that time.
5. A car is moving at a velocity of 72 Km/h. Suddenly brakes are applied so as to stop the car after 10 m. Find the force exerted by the brakes on the car. (If the total mass of car and passengers is equal to 800 Kg).
6. If action and reaction are equal and opposite then why can't they cancel each other?
7. Two objects of masses 100 g and 200 g are moving along the same line and direction with velocities 2m/s and 1 m/s respectively. They collide and after collision the first object moves with a velocity of 1.67 m/s. Calculate the velocity of the second object.
8. A car covers 30 km at a uniform speed of 30 km/h. What would be its speed for the next 90 km if the average speed for the entire journey is 60 km/h.
9. The velocity time graph of a particle of mass 50 g moving in a definite direction is shown in the following figure. Answer the questions based on this figure :



- (a) What is the velocity of the particle at point A.
 - (b) Find the momentum of the particle, at time $t = 4$ s.
 - (c) What does the slope of graph represent?
 - (d) Calculate the distance travelled in 4 seconds.
- 10 A ball is thrown vertically upwards and returns to the thrower after 12 sec ($g=9.8 \text{ m/s}^2$). Find
(i) the velocity with which it was thrown up.
(ii) the maximum height it reaches.
(iii) its position after 8 sec.