Science | Worksheet | Class IX
Motion

Question 1

A particle is moving up an inclined plane. Its velocity changes from 15m/s to 10m/s in two seconds. What is its acceleration?

Question 2

The velocity changes from 45m/s to 60m/s in Three seconds. What is its acceleration?

Question 3

A body covered a distance of z metre along a semicircular path. Calculate the magnitude of displacement of the body, and the ratio of distance to displacement?

Question 4

A particle moving with an initial velocity of 5m/s is subjected to a uniform acceleration of $2.5m/s^2$. Find the displacement in the next 4 sec.?

Question 5

A train is travelling at a speed of 60 km/h. Brakes are applied so as to produce a uniform acceleration of -0.5 m $/s^2$. Find how far the train will go before it is brought to rest.

Question 6

A Truck covers 30km at a uniform speed of 30km/h. what should be its speed for the next 90km if the average speed for the entire journey is 60km/h?

Question 7

A stone is thrown in a vertically upward direction with a velocity of 10 m/s. If the acceleration of the stone during its motion is 10 m $/s^2$ in the downward direction, what will be the height attained by the stone and how much time will it take to reach there?

Question 8

A person goes to market, makes purchases and comes back at a constant slower speed. Draw displacement- time and velocity time graphs of the person?

Question 9

John runs for 10 min. at a uniform speed 9km/h. At what speed should he run for the next 20 min. so that the average speed comes 12km/h?

Question 10

A particle was at rest from 1 a.m. It moved at a uniform speed 50km/h from 1.30 a.m. to 2:00 a.m. Find the average speed between

 (a) 1.00 a.m. and 2.00 a.m.

 (b) 1.15 a.m. and 2.00 a.m.

 (c) 1.30 a.m. and 2.00 a.m.

Question 11

An object moves along a circular path of diameter 14cm with constant speed. If it takes 2 min. to move from a point on the path to the diametrically opposite point. Find

(a) The distance covered by the object

(b) The speed

(c) The displacement

(d) average velocity.

Question 12

A particle with a velocity of $2m/s$ $at = 0$ moves along a straight line with a constant acceleration of $0.2m/s^2$. Find the displacement of the particle in 10s?

Question 13

A particle is pushed along a horizontal surface in such a way that it starts with a velocity of 12m/s. Its velocity decreases at a uniform rate of $0.5m/s^2$

(a) Find the time it will take to come to rest.

(b) Find the distance covered by it before coming to rest?

Question 14

A train accelerated from 20km/h to 80km/h in 4 minutes. How much distance does it cover in this period? Assume that the tracks are straight?

Question 15

A cyclist moving on a circular track of radius 50m completes one revolution in 4 minutes. What is his

(a) average speed

(b) average velocity in one full revolution?

Question 16

A jogger moves 500m in 2 minutes and next 1000m in 30s on the same straight path. What is his average speed and average velocity?