

Class -9 Motion

1. How will the equations of motion for an object moving with a uniform velocity change?
2. What is the displacement and distance covered by the car which moves in a circular road of radius R when it covers half the circle?
3. What is the velocity vs time graph of an object when it moves with uniform positive acceleration?
4. What happens to acceleration when an object moves in a circle with uniform speed?
5. A car goes from point A to B and then come back from B to A. What is the displacement and average velocity?
6. A body moves over a horizontal surface with an initial velocity of 2 m/s . Due to friction its velocity decreases uniformly at rate of 0.25 m/s^2 . How much time will it take to stop?
7. A car has a uniform acceleration of 3.5 m/s^2 . Calculate the distance travelled by the car after 10 seconds of start?
8. A car is travelling at a speed of 72 km/h , the brakes are applied so as to produce a uniform acceleration of -1 m/s^2 . Find the distance it travels after applying brakes so that it completely stops?
9. A particle travels with an initial velocity of $+6.0\text{ m/s}$ and moves with an acceleration of -2.0 m/s^2 . Calculate the displacement of the particle after 5 seconds?
10. An object moves along a straight line with an acceleration of 1 m/s^2 . If its initial speed is 10 m/s , find its speed after 5s?
the rate of 5 m/s^2 for 5 sec. Calculate the velocity of train in 5 sec.
11. An object moves with uniform positive acceleration. Its velocity-time graph will be
 - (a) A straight line parallel to the time axis
 - (b) A straight line inclined at an obtuse angle to the time axis
 - (c) A straight line inclined at an acute angle to the time axis
 - (d) None of these.
12. The maximum speed of a train is 90 km/h . It takes 10 hours to cover a distance of 500 km . Find the ratio of its average speed to maximum speed?
13. A car start from rest and acquire a velocity of 54 km/h in 2 sec. Find
 - (i) the acceleration
 - (ii) distance travelled by car assume motion of car is uniform?
14. An object dropped from a cliff falls with a constant acceleration of 10 m/s^2 . Find its speed 5 s after it was dropped.
15. A ball is thrown upwards and it goes to the height 100 m and comes down
 - 1) What is the net displacement?
 - 2) What is the net distance?