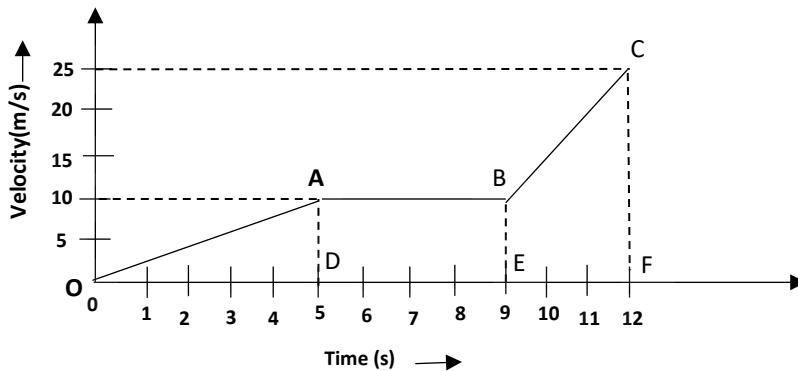


Class 9 - Science

Motion Worksheet

1. A particle moves from 3 m North then 4 m East and finally 6 m South. Calculate the displacement.
2. A car travels from place A to place B with a speed of 30 km/h and then back to A with a speed of 50 km/h find
 - a. Displacement of the car.
 - b. Distance traveled by the car.
 - c. Average speed of the car.
 - d. Draw the velocity time graph for zero acceleration.
3. An object is thrown vertically upward with a velocity of 20 m/s. How much time will it take to return to the original position?
4. A particle moves over three quarters of a circle of radius r cm. Calculate the magnitude of distance and displacement.
5. A cheetah can accelerate from rest at the rate of 4 m/s^2 .
 - a. What will be the velocity attained by it in 10 s?
 - b. How far will it travel in this duration?
6. From a station X a train starts from rest and attains a speed of 54 km/h in 10s. Then by applying brakes negative acceleration of 2.5 m/s^2 is produced and it stops at station Y in 6s. Find the distance between station X and Y.
7. Plot Velocity-Time graph for a body whose initial velocity is 5 m/s and is moving with a retardation of 1 m/s^2 . Also calculate the distance covered by it.
8. The minute hand of a wall clock is 10 cm long. Find its displacement and the distance covered from 10 am to 10:30 am.
9. From the following v-t graph.
 - a. Find out the acceleration over each of the intervals OA, AB and BC.
 - b. Calculate the distance covered in last 3 seconds.



10. A train 100 m long is moving with a constant velocity of 60 km/hr. Find the time it takes to cross the bridge 1 km long.