Motion Numerical test

1. A body travels a distance of 15m from A to B and then moves a distance of 20 m at right angles to AB. Calculate the total distance and displacement.

2. A train travels at 60 km/hr for 0.52 hour, 30 km/hr for next 0.24 hr and 70km/hr for next 0.71 hour. What is the average speed of the train?

3. On a 120 km a train travels the first 30km at a uniform speed of 30 km/hr. How fast must the train travel the next 90 km so the average speed for the total trip is 60 km/hr.

4. A car is travelling at 36 km/hr speeds up to 72km/hr in 5 seconds. What is acceleration? If the same car stops in 20 seconds, what is the retardation?

5. A body is accelerating at a constant rate of 10 m/s2. If the body starts from rest, how much distance will it cover in 2 seconds?

6. A car acquires a velocity of 72 km/hr in 10 seconds, starting from the rest, find acceleration, average velocity and distance travelled.

7. A train starting from the rest attains a velocity of 72 km/hr in 5 minutes. If the acceleration is uniform then find the

   a) The acceleration

   b) The distance

8. A farmer moves along the boundary of a square field of side 10m in 40 sec. What will be the magnitude of displacement of the farmer at the end of 2 minutes 20 seconds.

9. A cyclist goes a round of circular tract diameter 105m in 5 minutes. Calculate the speed.

10. A car is moving from A to B 20 km and back to C 10 km. find the distance and displacement.