

you or to the ground. But with respect to a frame of reference attached with a person sitting in the car, the car is at rest.

DISTANCE

The length of **the actual length of the path travelled** by a body in a given interval of time is called distance covered by the particle.

Distance is the actual length of the path. So, it is the characteristic property of any path i.e., nature of path is always associated when we consider distance between two positions.

DISPLACEMENT

The shortest distance from initial to final position is known as the displacement of the body. Displacement is always measured from initial to final position.

[So, to get the value of displacement we consider only the initial and final position of the body. Here, we do not consider the actual path followed by the body to reach from initial to its final position.]

Thus displacement has both magnitude and direction. Such quantities are represented by vectors.

[Presently, we are dealing with motion along a straight line (also called rectilinear motion) only. In one-dimensional motion, there are only two directions (backward and forward, upward and downward) in which an object can move, and these two directions can easily be specified by + and – signs.]