CLASS - XI PHYSICS
Chapter -3 : Motion in a straight line
Module -1 (handout)

Motion
If an object changes its position with respect to its surroundings with time, then it is called in motion.

Rest
If an object does not change its position with respect to its surroundings with time, then it is called at rest.

[Rest and motion are relative states. It means an object which is at rest in one frame of reference can be in motion in another frame of reference at the same time.]

Point Mass Object
An object can be considered as a point mass object, if the distance travelled by it in motion is very large in comparison to its dimensions.

Types of Motion

1. One Dimensional Motion
If only one out of three coordinates specifying the position of the object changes with respect to time, then the motion is called one dimensional motion.

For instance, motion of a block in a straight line motion of a train along a straight track a man walking on a level and narrow road and object falling under gravity etc.

2. Two Dimensional Motion
If only two out of three coordinates specifying the position of the object changes with respect to time, then the motion is called two dimensional motion.

A circular motion is an instance of two dimensional motion.

3. Three Dimensional Motion
If all the three coordinates specifying the position of the object changes with respect to time, then the motion is called three dimensional motion.

A few instances of three dimension are flying bird, a flying kite, a flying aeroplane, the random motion of gas molecule etc.