MOTION IN ONE DIMENSIONS

INTRODUCTION

The branch of physics which deals with the study of motion of material objects is called **mechanics**. Mechanics is divided into following branches.

(i) Statics :

Statics is the branch of mechanics which deals with the study of motion of objects under the effect of forces in equilibrium.

(ii) Kinematics :

It is that branch of mechanics which deals with the study of motion of object without taking into account the factors (i.e. nature of forces, nature of bodies etc.) which cause motion.

(iii) Dynamics :

It is that branch of mechanics which deals with the study of motion of objects taking into account the factors which cause motion.

Frame of reference:

In order to specify position, we need to use a reference point and a set of axes. It is convenient to choose a rectangular coordinate system consisting of three mutually perpendicular axes, labelled X-, Y-, and Z- axes. The point of intersection of these three axes is called origin (O) and serves as the reference point. To measure time, we position a clock in this system. This coordinate system along with a clock constitutes a **frame of reference**.