SNS COLLEGE OF TECHNOLOGY

23MET101- ENGINEERING MECHANICS

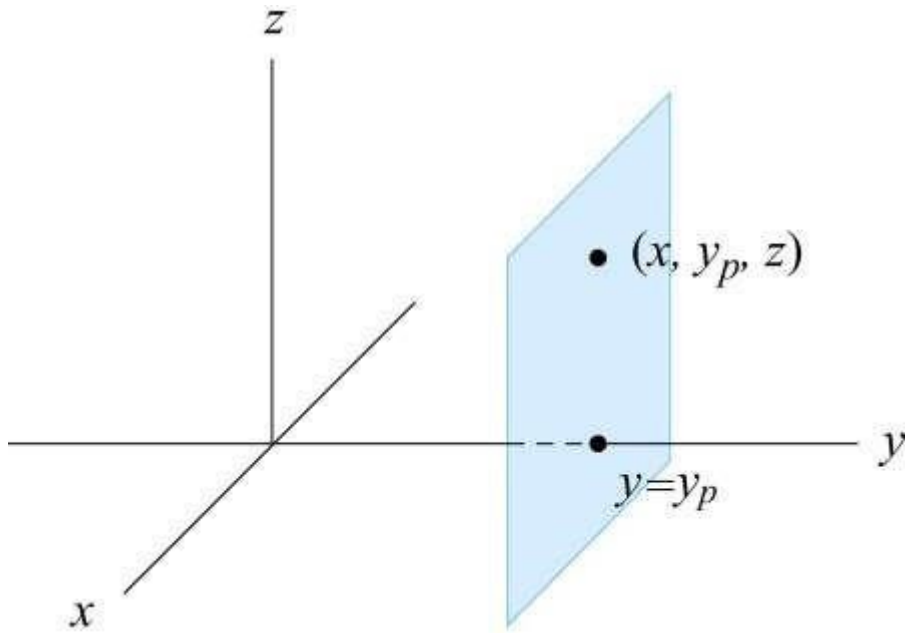
UNIT I - BASICS & STATICS OF PARTICLES

Vector Representation of Forces

Coordinate System

Coordinate system: used to describe the position of a point in space and consists of

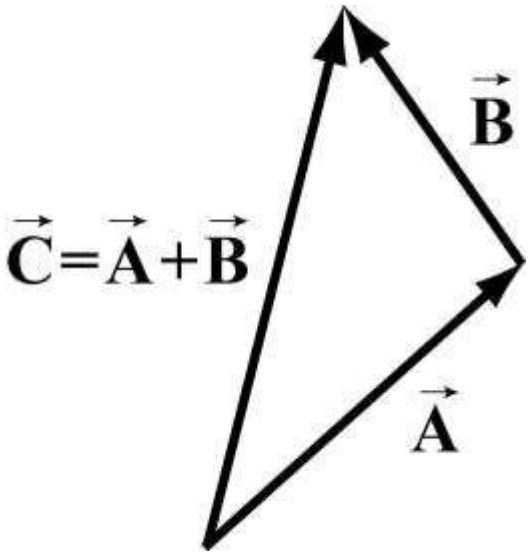
1. An origin as the reference point
2. A set of coordinate axes with scales and labels
3. Choice of positive direction for each axis
4. Choice of **unit vectors** at each point in space

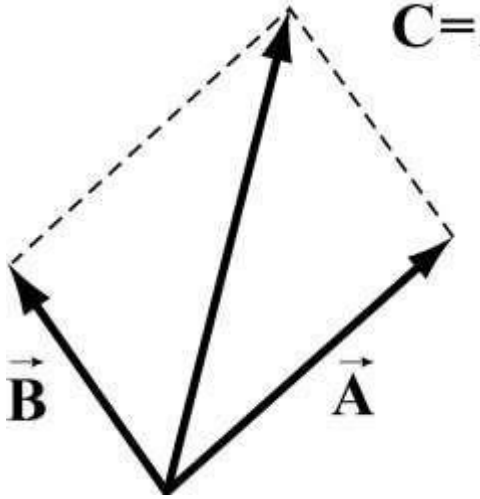


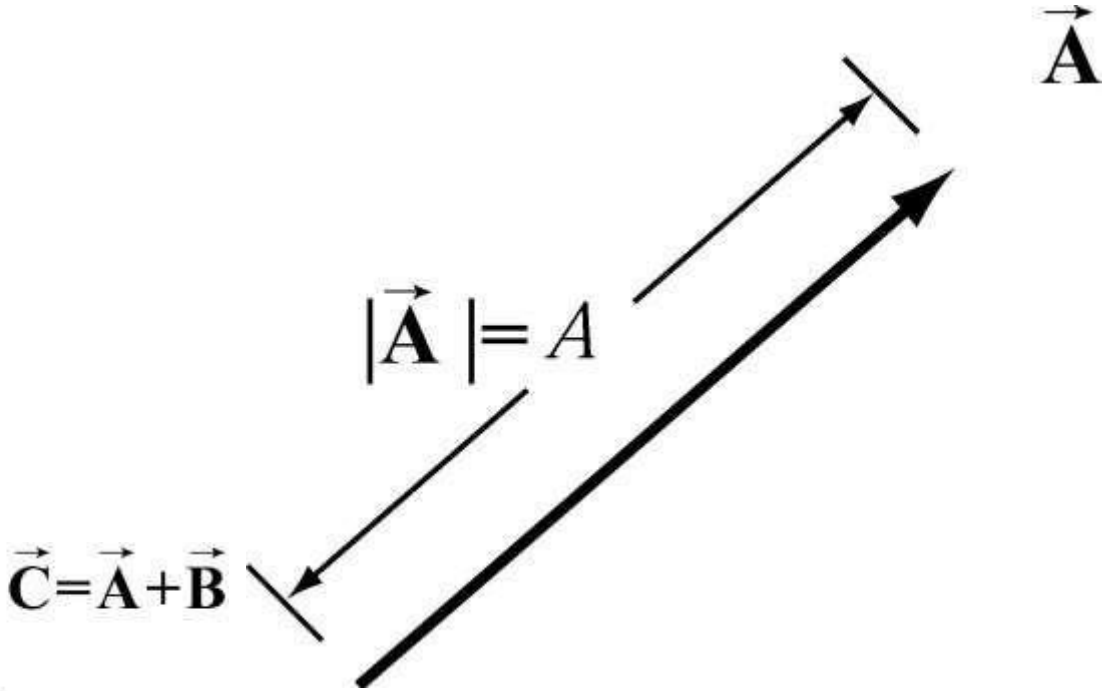
Cartesian Coordinate System

Vector Representation of Forces

A vector is a quantity that has both direction and magnitude.







Application of Vectors

(1) Vectors can exist at any point P in space.

(2) Vectors have direction and magnitude.

(3) Vector Equality: Any two vectors that have the same direction and magnitude, are equal no matter wherein space they are located.