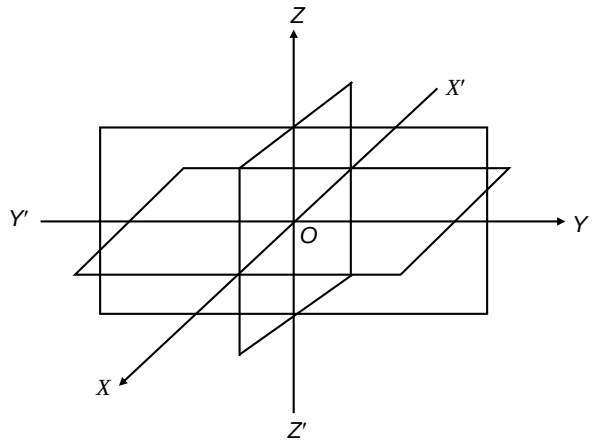
INTRODUCTION TO THREE DIMENSIONAL GEOMETRY

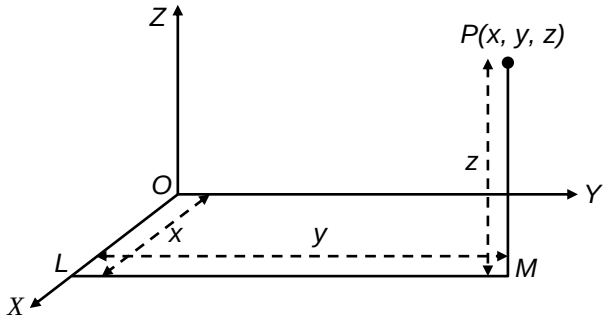
COORDINATE AXES AND COORDINATE PLANES IN THREE DIMENSIONAL SPACE

COORDINATE AXES

Three dimensional coordinate system is formed by taking three mutually perpendicular planes intersecting at a point O.



The lines XOX′, YOY′ and ZOZ′ at which the three planes intersect are mutually perpendicular to each other and are referred to as the x-axis, y-axis and z-axis respectively. The distance measured from XY plane upwards in the direction of OZ are taken as positive and those measured downwards in the direction of OZ′ are taken as negative. We specify the coordinates of a point by specifying the x, y and z coordinates of a point.



If the coordinates of P are (a, b, c), we mark the coordinates of other points as shown in the figure.