Exerise 3.2

1. *Write the answer of each of the following questions*:

(*i*) *What is the name of horizontal and the vertical lines drawn to determine the position of any point in the Cartesian plane*?

(*ii*) *What is the name of each part of the plane formed by these two lines*?

(*iii*) *Write the name of the point where these two lines intersect.*

Sol. (*i*) Horizontal line → x-axis, vertical line → y-axis.

(*ii*) Quadrant.

(*iii*) Origin.

2. *See figure given below and write the following*:

(*i*) *The coordinates of B.*

(*ii*) *The coordinates of C.*

(*iii*) *The point identified by the coordinates* $(-3, -5)$.

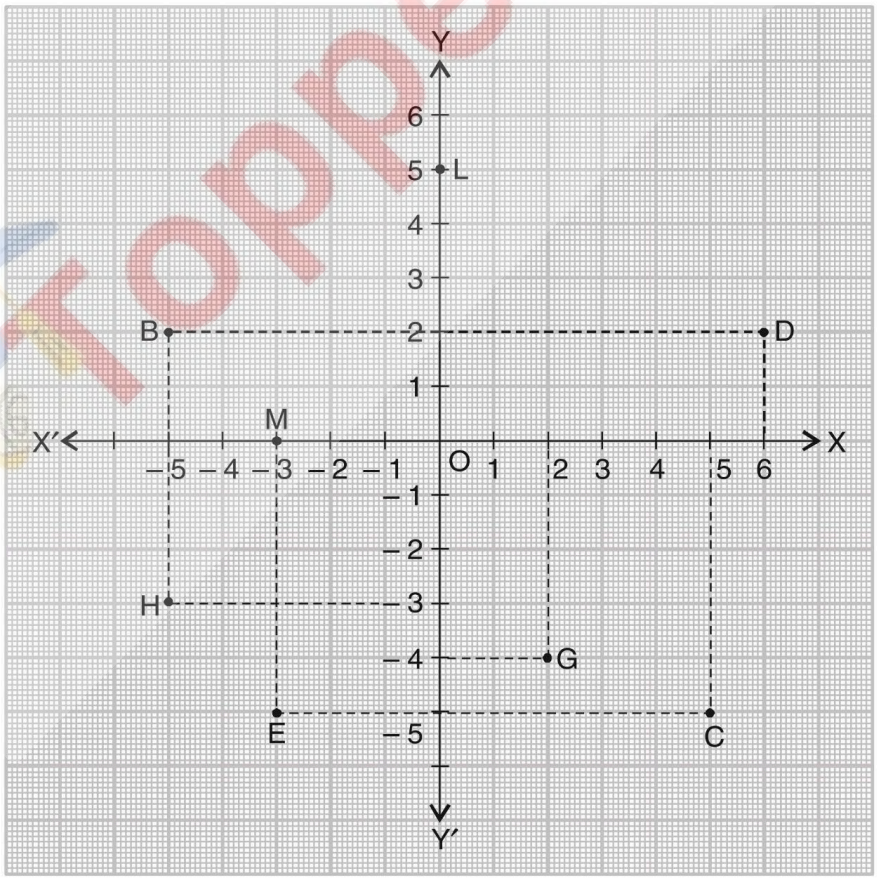
(*iv*) *The point identified by the coordinates* $(2, -4)$.

(*v*) *The abscissa of the point D.*

(*vi*) *The ordinate of the point H.*

(*vii*) *The coordinates of the point L.*

(*viii*) *The coordinates of the point M.*



Sol. (*i*) Distance of point B from x-axis = 2 units (+ve side) (y-coordinate)

Distance of point B from y-axis = 5 units (–ve side) (x-coordinate)

$\therefore$ Coordinates of the point B are $(-5, 2)$.

(*ii*) Distance of point C from y-axis = 5 units (+ve side) (x-coordinate)

Distance of point C from x-axis = 5 units (–ve side) (y-coordinate)

$\therefore$ Coordinates of the point C are $(5, -5)$.

(*iii*) Coordinates of the point are $(-3, -5)$

Distance of the point from y-axis = 3 units (–ve side)

Distance of the point from x-axis = 5 units (–ve side)

We notice the point is E.

(*iv*) Coordinates of the point are $(2, -4)$.

Distance of the point from y-axis = 2 units (+ve side)

Distance of the point from x-axis = 4 units (–ve side)

We notice the point is G.

(*v*) The abscissa of the point D = x-coordinate of the point D.

= Its distance from y-axis with direction = +6.

(*vi*) Ordinate of the point H = y-coordinate of the point H.

= Its distance from x-axis with direction = –3.

(*vii*) Distance of the point L from x-axis

= 5 units (+ve side) (y-coordinate)

Distance of the point L from y-axis = 0 unit (+ve side) (x-coordinate)

$\therefore$ Coordinates of the point L are $(0, 5)$.

(*viii*) Distance of the point M from x-axis

= 0 unit (+ve side) (y-coordinate)

Distance of the point M from y-axis

= 3 units (–ve side) (x-coordinate)

$\therefore$ Coordinates of the point M are $(-3, 0)$.