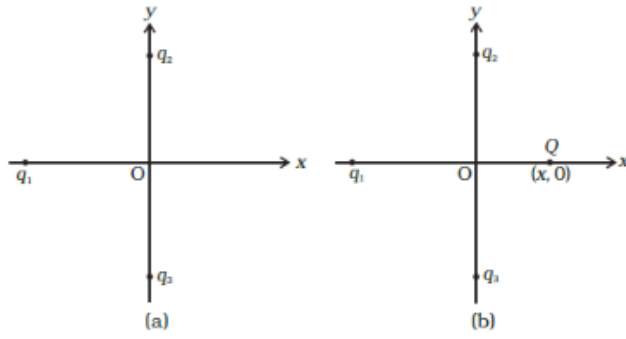


QUES 01:-

In Fig, two positive charges q_2 and q_3 fixed along the y axis, exert a net electric force in the + x direction on a charge q_1 fixed along the x axis. If a positive charge Q is added at $(x, 0)$, the force on q_1



- 1) shall increase along the positive x-axis.
- 2) shall point along the negative x-axis.
- 3) shall decrease along the positive x-axis.
- 4) shall increase but the direction changes because of the interaction of Q with q_2 and q_3 .

Sol. 1) shall increase along the positive x-axis.

The total force acting on a given charge is given by the vector sum of individual forces acting on that charge. Net force on charge q_1 , by other charges q_2 and q_3 is along the + x-direction, so nature of force between q_1 and q_2 and q_1 and q_3 is attractive. This is possible when charge q_1 is negative.

Now, if a positive charge Q is placed at $(x, 0)$, then, the force on q_1 shall increase. The direction will be along the positive x-axis.
