CA-6
Coordinate Geometry
Exercise 6.1

Q.1 (i) P(5,0)
→ Lies on x-axis

(ii) Q(0,-2)
→ Lies on y-axis

(iii) R(-4,0)
→ Lies on x-axis

(iv) S(0,5)
→ Lies on y-axis

Q.2 Side of square ABCD = 2a

(i) The coordinates of the vertices of this square when it coincides with the origin are A(0,0); B(2a,0); C(2a,2a); D(0,2a).

(ii) The coordinates of the vertices of this square when the center of the square is the origin are A(a,a); B(-a,a); C(-a,-a); D(a,-a)

Q.3 PQR & PQR' are equilateral Δs with side 2a.
As PQ is at the origin,
∴ In ΔQOR, ∠QOR = 90°

$QR^2 = OR^2 + OQ^2$
$OR^2 = (2a)^2 - (a)^2$
$OR = \sqrt{3a^2}$
$OR = \sqrt{3}\,a$

} By Pythagoras theorem

∴ The coordinates of vertex R & R' are $(\sqrt{3}a, 0)$ & $(-\sqrt{3}a, 0)$ respectively