If the imaginary part of $\frac{2z+1}{iz+1}$ is -2, then the locus of the point representing z in the complex plane is

A A circle

B A parabola

C A straight line

D An ellipse

Correct option is C)

Given that imaginary part of $\frac{2z+1}{iz+1}$ is -2.

Hence, $\frac{2(x+iy)+1}{i(x+iy)+1} = \frac{(2x+1)+2i(y)}{(1-y)+ix} = \frac{[(2x+1)+2iy]\,[(1-y)-ix]}{(1-y)^2+x^2}$

$\text{Im} = -2$

Thus $-2x^2 - x + 2y - 2y^2 = \left[-x^2 - y^2 + 1\right](-2)$ is a straight line.