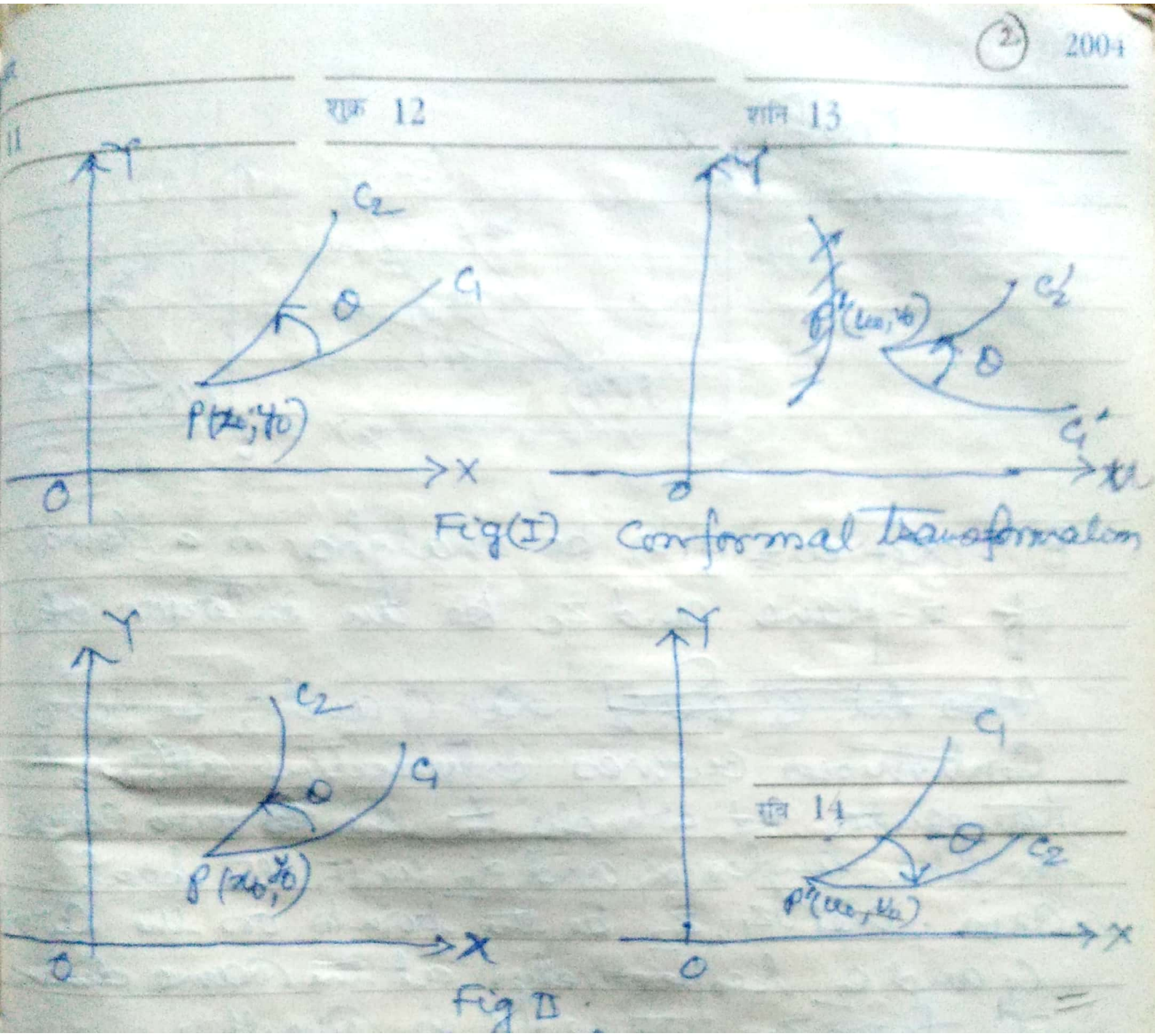
Conformal Transformation

Let the transformation

$$u = u(x,y)$$
$$v = v(x,y) \quad \text{---------- (1)}$$

map the point $P(z_0)$ (i.e. $P(x_0, y_0)$) of the z-plane into the point $P'(w_0)$ (i.e. $P'(u_0, v_0)$) of the w-plane and let the curves C_1 and C_2 intersecting at point $P(z_0)$ be mapped respectively into curves C_1' and C_2' intersecting at (u_0, v_0). The transformation is such that Then if the angle at (x_0, y_0) between C_1 and C_2 is equal to the angle between C_1' and C_2' both in magnitude and sense then the transformation or mapping is said to be Conformal at (x_0, y_0) (fig I)

A mapping which preserves the magnitude of angle but not necessarily the sense of rotation is called isogonal (fig II)



Fig(I) Conformal transformation

Fig II