

Let $P = \{(x, y) \mid x^2 + y^2 = 1, x, y \in \mathbb{R}\}$. Then, P is

(a) Reflexive

(b) Symmetric

(c) Transitive

(d) Anti-symmetric

Ans. B)

Soln. (x, x) doesn't hold the condition $x^2 + y^2 = 1; x, y \in \mathbb{R}$;

So, not reflexive.

If (x_1, x_2) is a solution, (x_2, x_1) is a solution too, i.e. symmetric.

If x_1, x_2 is a solution, x_2, x_3 is a solution, x_1, x_3 doesn't necessarily be a solution,.