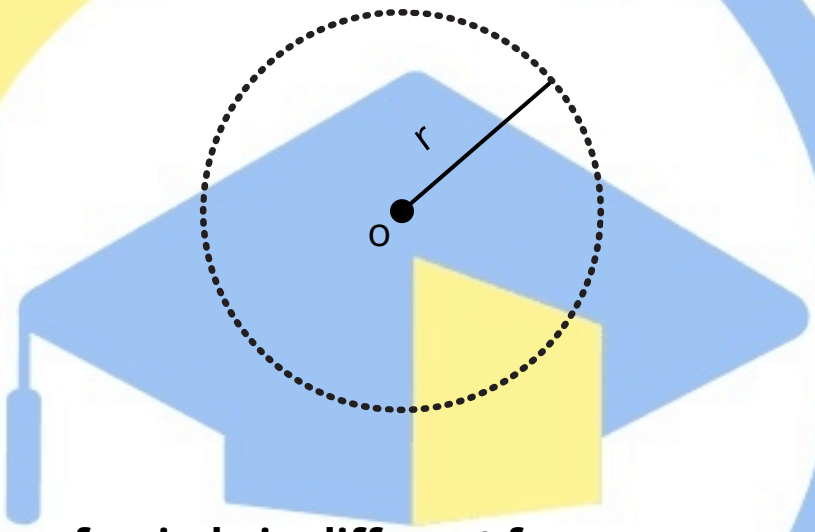
THREE YEARS DIPLOMA PROGRAM IN ELECTRICAL ENGINEERING 2ND SEM

CIRCLE

1. Definition of a Circle

Set of a point which is equidistance from a fixed point is called a circle



2. The equation of a circle in different forms

Distance Formula

The distance formula helps find the distance between two points **(x1,y1)** (and **(x2,y2)** using the formula:

$$D=\sqrt{(x2 - x1)^2 + (y2 - y1)^2}$$

(a) Equation of a Circle – When Center is at the Origin

If the center of the circle is at the origin (0, 0) and the radius is r, the equation becomes simpler:

$OP=\sqrt{(x2 - 0)^2 + (y2 - 0)^2}$

$OP=\sqrt{x2^2 + y2^2}$

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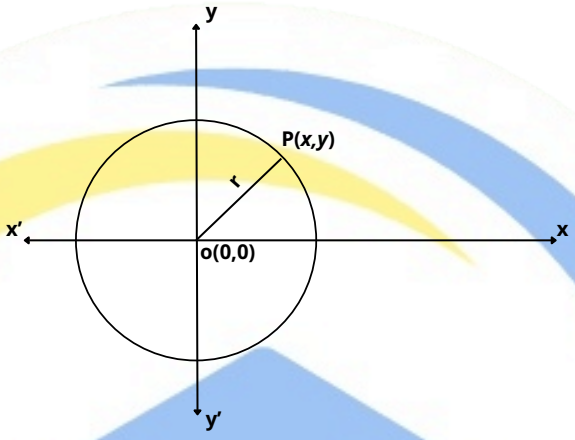
$R^2 = x2^2 + y2^2$



(b) Equation of a Circle – Standard Form

When the center of the circle is at a point (h,k) and the radius is r, the equation of the circle is given by:

$CP = \sqrt{(x2 - \alpha)^2 + (y2 - \beta)^2}$

$r^2 = (x2 - h)^2 + (y2 - k)^2$