Circles - Class XI

Past Year JEE Questions

Questions

Quetion: 01

The two circles $x^2 + y^2 = ax$, and $x^2 + y^2 = c^2$ $(c > 0)$ touch each other if

A. $| a | = c$

B. $a = 2c$

C. $| a | = 2c$

D. $2 | a | = c$

Solutions

Solution: 01

Explanation

As center of one circle is $(0, 0)$ and other circle passes through $(0, 0)$, therefore

Also $C_1 \left(\frac{a}{2}, 0\right) C_2 (0, 0)$

$r_1 = \frac{a}{2} r_2 = C$

$C_1C_2 = r_1 - r_2 = \frac{a}{2}$

$\Rightarrow C - \frac{a}{2} = \frac{a}{2}$

$\Rightarrow C = a$

If the two circles touch each other, then they must touch each other internally.