

The number of common tangents to the circles  $x^2 + y^2 - 4x - 6y - 12 = 0$  and  $x^2 + y^2 + 6x + 18y + 26 = 0$ , is :

- ✓ (1) 3
- (2) 4
- (3) 1
- (4) 2

$$x^2 + y^2 - 4x - 6y - 12 = 0 \quad \text{Centre } C_1 \equiv (2, 3)$$

$$\text{Radius } r_1 = 5$$

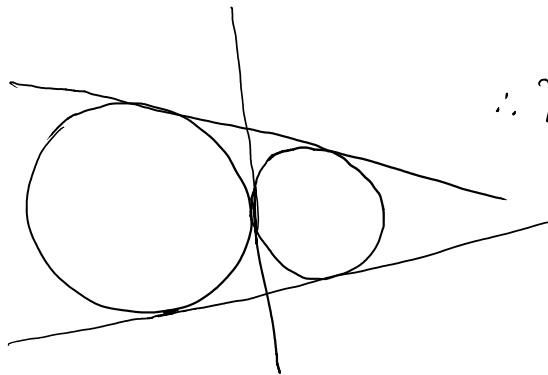
$$x^2 + y^2 + 6x + 18y + 26 = 0 \quad \text{Centre } C_2 \equiv (-3, -9)$$

$$\text{Radius } r_2 = 8$$

$C_1 C_2$  = distance between the 2 centres

$$= \sqrt{5^2 + 12^2} = 13 = r_1 + r_2$$

$\therefore$  The two circles touch each other externally



$$\therefore \text{Number of tangents} = 2 + 1 = 3$$

$\therefore$  Correct option is (1)