

If two waves of same frequency and same amplitude, on superposition, produce a resultant disturbance of the same amplitude, the wave differ in phase by

Ans) We know that:

$$R^2 = a^2 + b^2 + 2ab\cos\phi$$

$$\therefore a^2 = a^2 + a^2 + 2a^2\cos\phi$$

$$\Rightarrow \cos\phi = -\frac{1}{2}$$

$$\Rightarrow \phi = \frac{2\pi}{3}$$