Question 2

The angular velocity of the motor is not fixed, but varies with time. The angular velocity of the motor is given by:

$$\omega(t) = \omega_0 + \Delta\omega \sin(\omega_v t)$$

where ω_0 is the angular velocity of the motor at $t = 0$.
Given values:

- $\varphi = 5^o$
- $\delta = 2.5^o$
- $\omega_0 = 400\pi$ rad/s
- $\Delta\omega = 10\pi$ rad/s
- $\omega_v = 2\pi$ rad/s