

Lecture - 8 - Part - 2

$$v_t = V_m \sin \omega t$$

$$T = \frac{2\pi}{\omega} \Rightarrow \omega = \frac{2\pi}{T}$$

$$v(t+T) = V_m \sin \omega (t+T)$$

$$= V_m \sin \omega \left(t + \frac{2\pi}{\omega} \right)$$

$$= V_m \sin (\omega t + 2\pi)$$

$$[\sin 2\pi = 0]$$

$$= V_m \sin \omega t$$

$$\therefore v_t = \frac{V_m}{\omega} (t+T)$$