

4.3 FOURIER SERIES REPRESENTATION OF SIGNALS

$$F(t) = C_0 + \sum_{n=1}^{\infty} A_n \cos(n\omega_0 t) + \sum_{n=1}^{\infty} B_n \sin(n\omega_0 t) \quad (4.2)$$

$$A_n = \frac{2}{T} \int_0^T F(t) \cos(n\omega_0 t) dt \quad (4.3)$$

$$B_n = \frac{2}{T} \int_0^T F(t) \sin(n\omega_0 t) dt \quad (4.4)$$

$$C_0 = \frac{1}{T} \int_0^T F(t) dt = \frac{A_0}{2} \quad (4.5)$$