

ELEC 255 tutorial. Practice 5. Continuous-Time Fourier Series

STUDENT #: _____ MARKS: _____/10

Problem 1: [5 marks]

For the continuous-time periodic signal

$$x(t) = 2 + \cos\left(\frac{2\pi}{3}t\right) + 4\sin\left(\frac{5\pi}{3}t\right),$$

determine the **fundamental frequency** ω_0 and the **Fourier series coefficients** c_k such that

$$x(t) = \sum_{k=-\infty}^{\infty} c_k e^{jk\omega_0 t}.$$

Problem 2: [5 marks]

For the signal shown in the figure below, find the corresponding Fourier series coefficient sequence.

