<div align="center">

EE 342 – Homework 3

Due Feb. 9, 2005

</div>

1. Write the Fourier series for the following signal:

$$x(t) = \cos\left(\frac{3}{10}\pi t\right) - 2\sin\left(\frac{4}{25}\pi t\right)$$

2. Problem 8.14 (a), (b), (c), (d), (f) Plot $y(t)$ for parts (a), (d) and (f)

3. Use the MATLAB `lsim` function to numerically calculate and plot $y(t)$ for parts (a), (d) and (f) of Problem 8.14. The plots should match those from Problem 2.

4. Problem 8.16 (a)-(d)

5. Problem 8.17. Hint for Part (b): It is easy to factor the denominator

6. Problem 8.25. of H(s).

7. Problem 8.26.

8. Problem 8.28.