

Electrical and Computer Engineering
University of Massachusetts Amherst
ECE580 Homework 2

September 21, 2004

On-campus Due Date: 09/28/04

PROBLEM 1

Problem 3.7 in text parts a, b, g.

PROBLEM 2

Compute the solution of the linear differential equations:

$$2\frac{d^2x(t)}{dt^2} + 7\frac{dx(t)}{dt} + 3x(t) = 0$$

where the initial conditions are $x(0) = 3$ and $\dot{x}(0) = 0$ in the time interval $0 \leq t \leq 10$.

PROBLEM 3

Compute the solution of the linear differential equations:

$$\frac{d^2x(t)}{dt^2} + \frac{dx(t)}{dt} + 2.5x(t) = 0$$

where the initial conditions are $x(0) = -1$ and $\dot{x}(0) = 1$ in the time interval $0 \leq t \leq 10$.

PROBLEM 4

Compute the input-output transfer functions for the circuits in Problem A of Homework 1.

PROBLEM 5

Problem 3.19 in text.