

ECE-205 : Dynamical Systems

Homework #5

Due : Wednesday January 22, 2014 at 5:10 PM

Exam 2: Thursday January 23

(Most of these problems are short drill type problems)

1) Chapter 5, Problem 5.1

2) Chapter 5, Problem 5.2

3) Chapter 5, Problem 5.3

4) Chapter 5, Problem 5.4

5) Chapter 5, Problem 5.5

6) Chapter 5, Problem 5.6

7) Chapter 5, Problem 5.9

8) Chapter 5, problem 5.10

9) Chapter 5, Problem 5.11

10) Simplify the following integrals:

$$y(t) = \int_0^t e^{-(t-\lambda)} e^{-\lambda} d\lambda \quad y(t) = \int_{-1}^{t-1} e^{-3(t-\lambda)} e^{-\lambda} d\lambda \quad y(t) = \int_2^{t+1} e^{-2(t-\lambda)} \lambda e^{-2\lambda} d\lambda$$

Scrambled Answers:

$$y(t) = \frac{1}{2} [e^{-t-2} - e^{-3t-2}] u(t) \quad y(t) = t e^{-t} u(t) \quad y(t) = \frac{1}{2} [t^2 + 2t - 3] e^{-2t} u(t-1)$$