CPE 391, spring 2012

Homework #1

1. Calculate the dynamic system response () of following system. is the unit step function.

Initial condition is

1. Calculate the eigenvalues and eigenvectors of the following system.

(1) Determine the value of for which the system is stable;

(2) Check the observability and controllability of following system.

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1. Find the minimal state vector representation of the following system. The transfer function is: