

Answers to ES205 Examination III, 1996-1997

Problem 1

1.1 d

1.2 c

1.3 $\ddot{x} + 3\dot{x} + 4x = \dot{F} + F$

1.4 b

1.5 a

1.6 a

1.7 $\delta \approx 1.39$

1.8 $\zeta \approx 0.22$

1.9 $\omega_h \approx 1.61$

1.10 c

Problem 2

Answer not available

Problem 3

Be sure to put transfer function in form found in the table. The "-10" you will have in front has a magnitude of 10 (=20dB) and a phase of 180 degrees.

Problem 4

Done as an in-class example. One possible answer is $k = 4310$ N-m, $c = 607$ N-m-s.