

2.092/2.093
COMPUTER METHODS IN DYNAMICS
FALL 2006

Homework 9

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Assigned: Thurs., Nov 16
Due: Tues., Nov 28

Problem 1 (10 points):

Consider the finite element system in Exercise 9.1, textbook p. 784.

- a) Establish a load vector which will excite only the first mode of the system.
- b) Assume that $\mathbf{R} = \mathbf{0}$ and ${}^o\mathbf{U} = \mathbf{0}$ but ${}^o\dot{\mathbf{U}} \neq \mathbf{0}$. Establish a value of ${}^o\dot{\mathbf{U}}$ which will make the system vibrate only in its second mode.

Problem 2 (10 points):

Exercise 9.11, textbook p. 801, but perform the solution for $\xi_1 = 0.01$ and $\xi_2 = 0.06$.