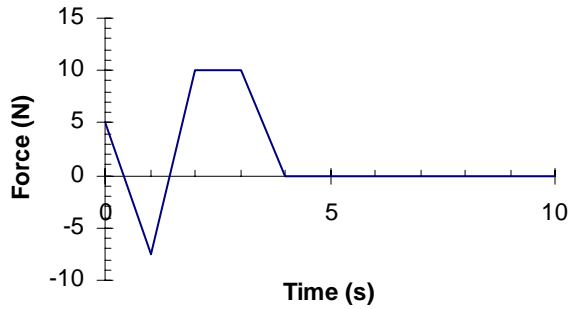


Homework – Lecture 15

Problem 15.1

A second order system is forced with the excitation shown below. After $t = 4$ the force is zero. Using Simulink apply this force to a second order system ($m = 1$ kg, $k = 800$ N/m, and $c = 0.7$ N-s/m) and determine the response of the system. Include a printout of your simulink model, the forcing function, and the time response for $0 < t < 10$ s.



Problem 15.2

Using Simulink generate the response spectrum shown below.

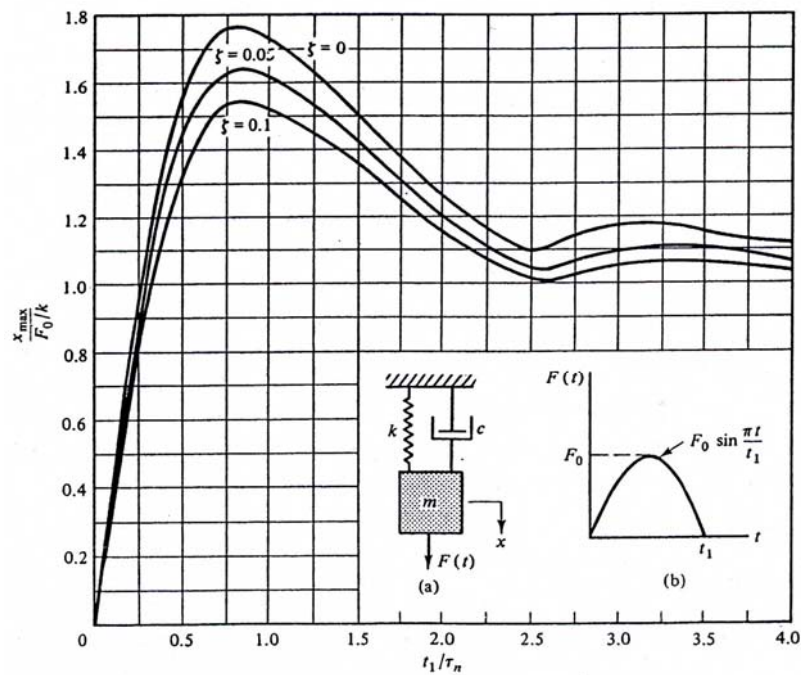


Figure 4-16 Response spectrum of spring-and-mass system subjected to sine-pulse force excitation.