12-05-2014

ECE 386

Homework 2

Due date: 26-05-2014

Q-1- Find the Root Locus plot of $H(s) = K\dfrac{s+2}{s(s-2)}$ with all details (do not compute the departure angles from the poles and arrival angles to the zeros).

Q-2- Draw the Nyquist plot of $H(s) = K\dfrac{s+2}{s(s-2)}$ with all details and determine the values of K such that the closed loop system whose pole locations are found using the equation $1 + H(s) = 0$ is stable.

Q-3 The transfer function of a system is given by the formula $H(s) = \dfrac{\sqrt{20}}{s(s+1)}$

   a) Find the gain crossover frequency for this system.
   b) Find the phase margin.

Q-4 The transfer function of a system is given by the formula $H(s) = \dfrac{10}{s(s+1)^2}$

   a) Find the phase crossover frequency for this system.
   b) Find the gain margin.