Due date: 26-05-2014

Q-1- Find the Root Locus plot of \( H(s) = K \frac{s+2}{s(s-2)} \) 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 \( H(s) = K \frac{s+2}{s(s-2)} \) 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 \( H(s) = \frac{\sqrt{20}}{s(s+1)} \)

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 \( H(s) = \frac{10}{s(s+1)^2} \)

a) Find the phase crossover frequency for this system.

b) Find the gain margin.