

**Homework #3**

Show all of your work. Problems are from the text book *Discrete-Time Control Systems*, 2<sup>nd</sup> Edition, K. Ogata, Prentice Hall, Upper Saddle River, New Jersey, 1995. If MATLAB simulation is required, show your code that is well documented, as well as simulation results.

1. Problem B-4-1, part (a) only
2. Problem B-4-2
3. Problem B-4-3
4. Problem B-4-8 – draw the root locus and find the critical gain only.
5. Problem A-4-7. Plot the root locus by hand, and then verify results using MATLAB.