

## **EE324, Control Systems Lab, Problem sheet 6(Report Format)**

Q1)

- a) show the calculation of the K value and add a picture of the step response.
- b) show the calculation of the K value and add a picture of the root locus plot.
- c) Add the picture of the root locus showing the breakaway point and show the calculation of gain at the breakaway point.
- d) Add pictures of root locus plots, step response plots for each increment in k values from 0 to 1, and a picture of steady-state error variation with K.
- e) Add pictures of root locus plots, step response plots, settling times plots for each increment in k values from 1 to 1000, and a picture of steady-state error variation with K.

Q2)

- a) Add a picture of the root locus and show the calculation of the K value.
- b) Add a picture of the root locus and show the calculation of the K value.
- c) Add the pictures of root locus plots for different values of z.
- d) Give an explanation of it.

Q3)

- a) Add plots for frequency response at various frequencies and check the given conditions(either theoretically or graphically).
- b) Write the correct relation along with an explanation?
- c) Same as 3a and give an explanation for the second statement.

**Note: At least these are things to be added to the report and if anyone wants to add extra required plots/values can be also added.**