**EBU6503 Control Theory**

**Lab 2 Semester 1 2019-20**

A unity feedback system has a forward path transfer function:

$$G = \frac{K(s+8)}{(s+3)(s+6)(s+10)}$$

Use Matlab and the Root Locus Technique to design a PID controller so that the closed loop system has a peak overshoot of 20% and a time-to-peak of 2/3 of that of the uncompensated system. The system must have zero steady-state error for a step input.

You report must show all your design steps, all relevant plots from Matlab, your results (uncompensated system, PD, PID) and a clear explanation of your design process.

I expect individual reports; identical reports will get zero marks. Turnitin will be used to check.