

ChE 4400, Spring 2001
Quiz #5
Closed Book, Closed Notes
Allowed Time: 10 minutes

Below is a Bode diagram of $G=G_pG_vG_m$.

1. (2pts) What is the ultimate period?
2. (2pts) What is the ultimate gain?
3. (1pt) If you apply a P-only controller with gain of 5, will the closed-loop system be stable or unstable?
4. (2pts) What is the controller gain that will give the gain margin of 1.7?
5. (2pts) What is the controller gain that will give the phase margin of 30° ?
6. (1pt) What is the controller gain that guarantees both the gain margin of 1.7 and phase margin of 30° ?

