

# ECE-205 : Dynamical Systems

## Homework #8

**Due :** Monday May 6 at 5 PM

**Read section 6.7 for problems 3-5. You are responsible for this material, but we will not cover it in class.**

1) Chapter 6, Problem 6.5

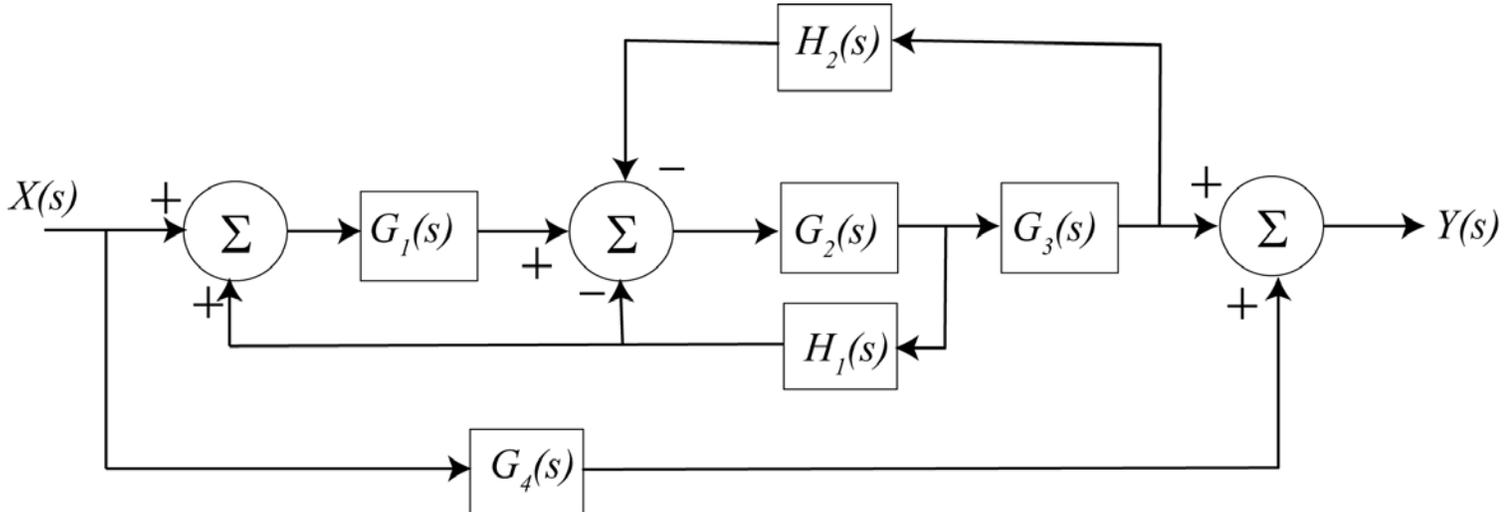
2) Chapter 6, problem 6.6

3) Chapter 6, Problem 6.7

4) Chapter 6, Problem 6.8

5) For the block diagram shown below, determine a corresponding signal flow diagram and show that the closed loop transfer function is

$$H_{system} = \frac{G_1 G_2 G_3 + G_4 (1 - G_1 G_2 H_1 + G_2 H_1 + G_2 G_3 H_2)}{1 - G_1 G_2 H_1 + G_2 H_1 + G_2 G_3 H_2}$$



6) Chapter 7, Problem 7.5

7) Chapter 7, Problem 7.6

8) Chapter 7, Problem 7.1 (correction to solutions: 2 marginal, 1 stable, 2 unstable)

9) Chapter 7, Problem 7.2

10) Chapter 7, Problem 7.3