ELECTRICAL ENGINEERING DEPARTMENT EE 550-01 INTRODUCTION TO MODERN CONTROL Second Semester 2001/2002 Instructor: Dr. Samir AL-Baiyat



02/02/2002 Due Date: 13/02/2002

1. Consider the circuit shown in Figure 1, in which the diodes are assumed to be ideal. Are the input u and the output y linearly related? Is it true that a linear system must consist of only linear components?

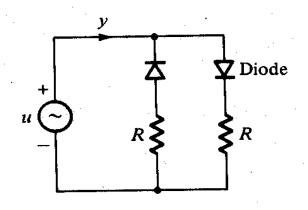


Figure 1

2. Consider the multivariable feedback system shown in Figure 2. Find the transfer function H(s)

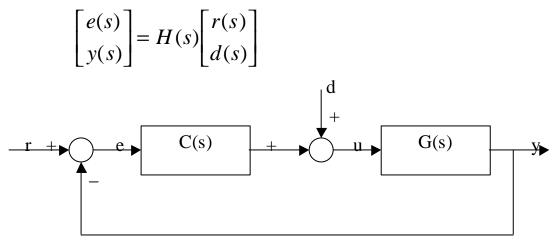


Figure 2

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- 3. Problem 2.3 of Text
- 4. Problem 2.18 of Text (Only the part that deals with Fig. 2.25).
- 5. Determine whether the discrete-time system of Figure 3 is linear when a = 2, c = 0.5 and m = 4.

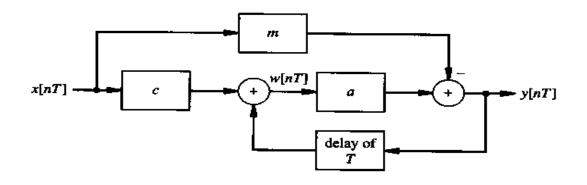


Figure 3