Assignment 6

Due on 2020-01-11, 29:58 EST

Multiple Choice Questions
1. What is the correct value for the expression below?
   a) 1  
   b) 2  
   c) 3  
   d) 4
   
2. The system below is linear:
   a) True  
   b) False
   
3. The system's order is determined by the:
   a) Number of inputs  
   b) Number of outputs  
   c) Number of states  
   d) None of the above
   
4. The impulse response of a system is:
   a) The output when the input is a step function  
   b) The output when the input is a impulse function  
   c) The output when the input is a ramp function  
   d) The output when the input is a periodic function
   
5. The system is stable:
   a) True  
   b) False
   
6. The system is controllable:
   a) True  
   b) False
   
7. The system is observable:
   a) True  
   b) False
   
8. The system is minimally causal:
   a) True  
   b) False
   
9. The system is stable:
   a) True  
   b) False
   
10. The system is controllable:
    a) True  
    b) False

Multiple Select Questions
1. Which of the following statements are true about the system?
   a) It is linear  
   b) It is time-invariant  
   c) It is causal  
   d) It is memoryless
   
2. The system is:
   a) Stable  
   b) Unstable  
   c) Bounded-input bounded-output (BIBO) stable  
   d) None of the above
   
3. The system is:
   a) Causal  
   b) Non-causal  
   c) Bounded-input bounded-output (BIBO) stable  
   d) None of the above
   
4. The system is:
   a) Stable  
   b) Unstable  
   c) Causal  
   d) Non-causal
   
5. The system is:
   a) Stable  
   b) Unstable  
   c) Causal  
   d) Non-causal
   
6. The system is:
   a) Stable  
   b) Unstable  
   c) Causal  
   d) Non-causal
   
7. The system is:
   a) Stable  
   b) Unstable  
   c) Causal  
   d) Non-causal

Commons for 04-06

Consider the system described by the following transfer function:

\[ \frac{Y(s)}{X(s)} = \frac{1}{s^2 + 5s + 6} \]

Determine the poles and zeros.

Determine the system's type and order.

Determine the system's stability.

Determine the system's causality.

Determine the system's bounded-input bounded-output (BIBO) stability.

Determine the system's causality.

Determine the system's bounded-input bounded-output (BIBO) stability.