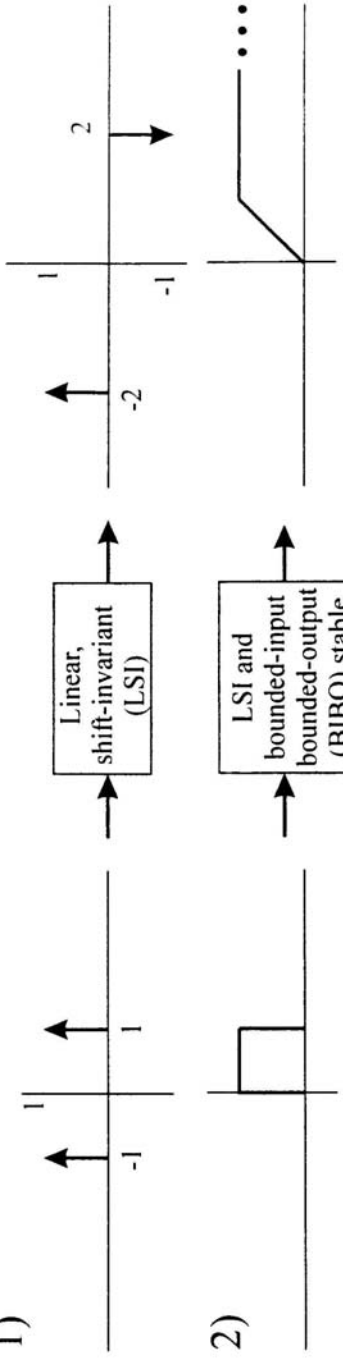


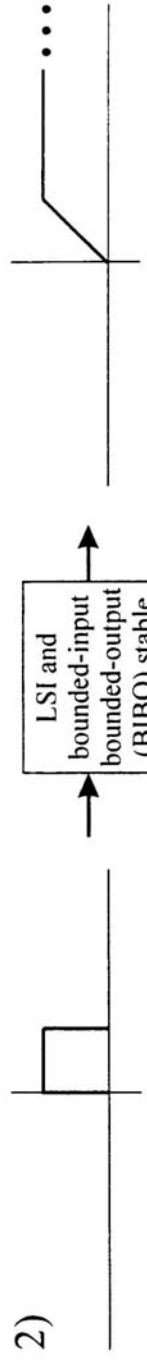
Quas Question : Nishimura, 2002

For each system below, indicate if it is possible for the output function to occur, given the input function.
(You may do them in any order you wish.)

- 1) 

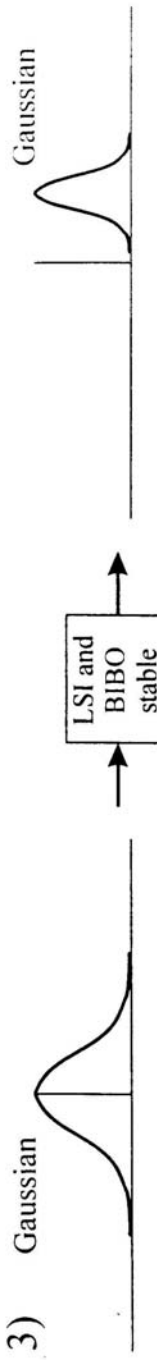
 Input: A rectangular pulse with height 1 and width 1, centered at 0.

 System: Linear, shift-invariant (LSI)

 Output: A trapezoidal pulse with a peak height of 2 and a width of 1, centered at 0.
- 2) 

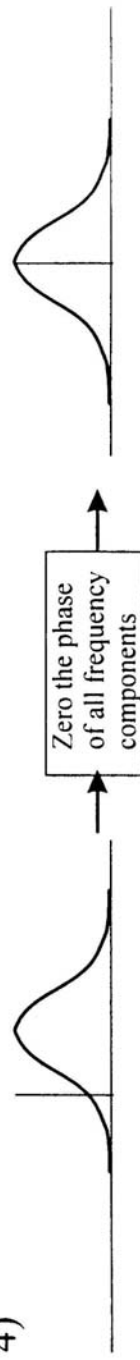
 Input: A rectangular pulse with height 1 and width 1, centered at 0.

 System: LSI and bounded-input bounded-output (BIBO) stable

 Output: A trapezoidal pulse with a peak height of 1 and a width of 1, centered at 0.
- 3) 

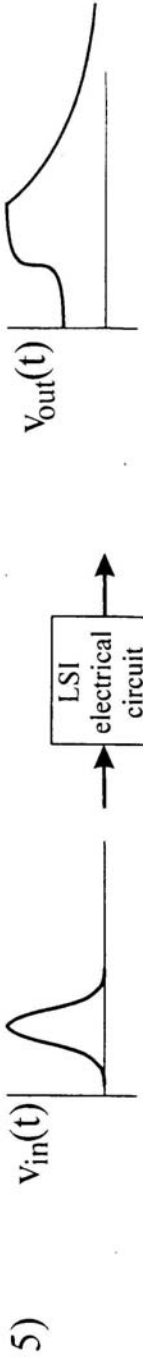
 Input: A Gaussian pulse centered at 0.

 System: LSI and BIBO stable

 Output: A Gaussian pulse centered at 0.
- 4) 

 Input: A Gaussian pulse centered at 0.

 System: Zero the phase of all frequency components

 Output: A Gaussian pulse centered at 0.
- 5) 

 Input: A Gaussian pulse centered at 0.

 System: LSI electrical circuit

 Output: A Gaussian pulse centered at 0.