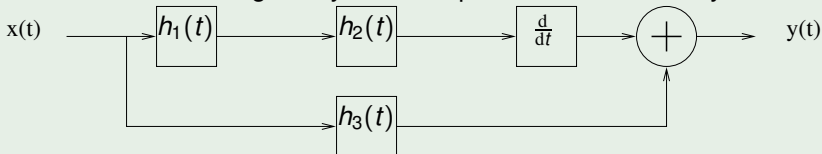


Example

Example

Consider the following CT system composed of LTI CT subsystems.



The impulse response functions of the subsystems are as follows:

$$h_1(t) = tu(t), \quad h_2(t) = u(t-1), \quad h_3(t) = \delta(t-3).$$

- ❶ (6 points) If this system is LTI, state so and find its overall impulse response. If it is not LTI, explain why (giving a counter example).
- ❷ (4 points) Determine the input-output relationship for the above system, (regardless of whether it is LTI or not).
(For full credit, your final answer must not contain the letter "h.")

(Selected from Exam 1 in Summer 2014)