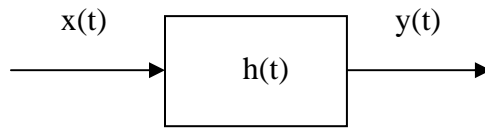


EE351 Homework 4

- 1) For the LTI system shown below, the unit impulse response is $h(t) = e^{-t}u(t)$. Find the system response $y(t)$ if the input $x(t)$ is:



- (a) $x(t) = u(t)$,
(b) $x(t) = e^{-t}u(t)$,
(c) $x(t) = e^{-2t}u(t)$.
- 2) Repeat Problem 1 for the following inputs $x(t)$:

- (a) $x(t) = e^{-2t}u(t)$,
(b) $x(t) = e^{-2(t-3)}u(t)$,
(c) $x(t) = e^{-2t}u(t-3)$

- 3) Repeat Problem 1 for the gate pulse $x(t)$ depicted in Fig.1.

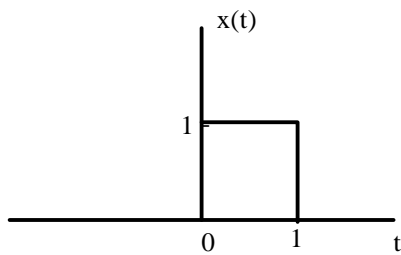


Fig.1