

EE3210 Signals and Systems

Tutorial 4

Problem 1: Consider a discrete-time LTI system with unit impulse response $h[n] = 4^n u[2 - n]$. Use the convolution sum to find the response $y[n]$ of the system to the input $x[n] = (-\frac{1}{2})^n u[n - 4]$.

Problem 2: Consider a continuous-time LTI system with unit impulse response $h(t) = e^{2t} u(1 - t)$. Use the convolution integral to find the response $y(t)$ of the system to the input $x(t) = u(t) - 2u(t - 2)$.