

ECE 351 - 52

SIGNALS AND SYSTEMS 1

LAB 5 - PRELAB

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1 Transfer Function

$$H(s) = \frac{1}{s^2 + s + 24}$$

2 Step Response

Partial Fraction Decomposition

$$H(s) * \frac{1}{s} = \frac{A}{s} + \frac{B}{s^2 + s + 24}$$

Results in:

$$h(t) = \frac{1}{24} + \frac{4.89898}{4.87340} * e^{\frac{-1}{2}t} \sin\left(\frac{\sqrt{95}}{2} * t + 95.8579^\circ\right)$$