ECE-GY 6113 Spring 2021

HW 5

1) Fourth-Order Notch Filter Exercise

2) Peak Filter Exercise

3) Inverse Filtering of Speech

4) Consider the LTI system implemented by the difference equation

$$y(n) = x(n - 4) - (1/9) [x(n) + x(n-1) + x(n-2) + \ldots + x(n-8)]$$

Plot the impulse response and frequency response. Express the frequency response in terms of the digital sinc function. What kind of filter is this (low-pass, high-pass, band-pass, or band-stop filter?)

5) 3.6 (in DSP Exercises)

6) 3.16 (in DSP Exercises). Instead of 3.16(d) find the frequency response in terms of the digital sinc function.

7) 3.17 (in DSP Exercises)

8) 3.18 (in DSP Exercises)