EE 16B Fall 2015 Designing Information Devices and Systems II Section 13B - Review 2

1

## 1. Filter Design

Consider a system input that has a signal at 100Hz and unwanted noise at 10kHz. For the filter described below, find the value of  $\omega_c$  that attenuates the unwanted noise by a factor of 20. What is the gain of the desired signal from this filter?

$$H(\omega) = \frac{2}{1 + j\omega/\omega_c}$$