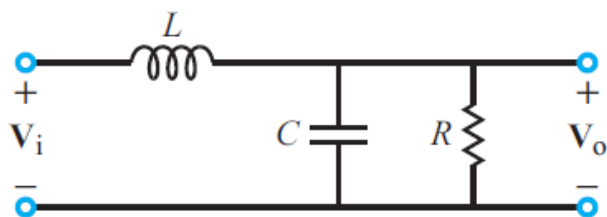
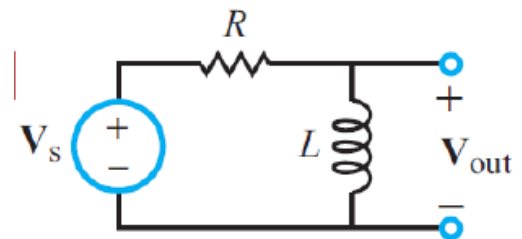
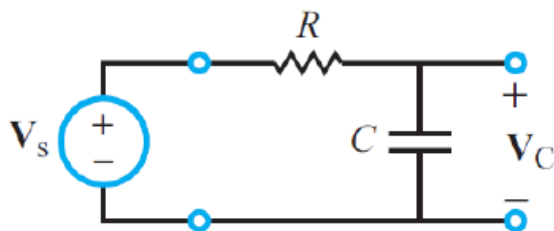
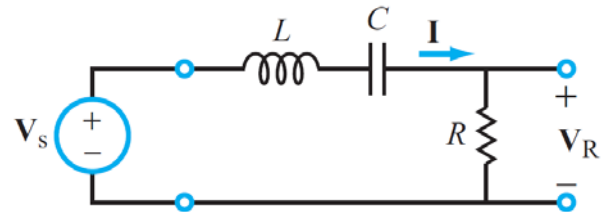
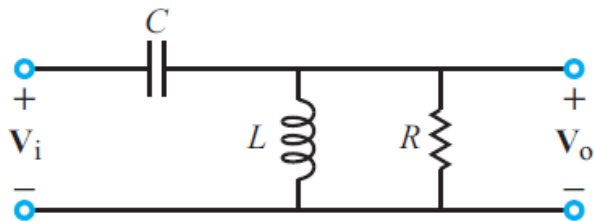
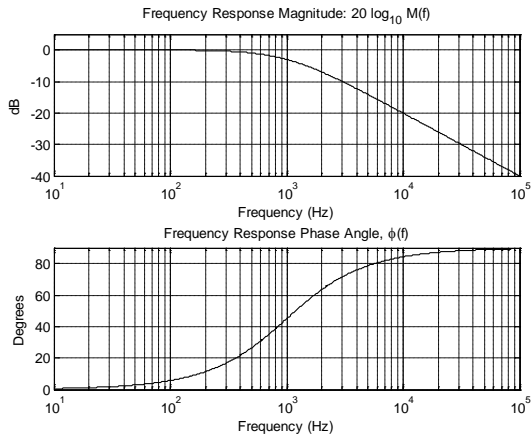


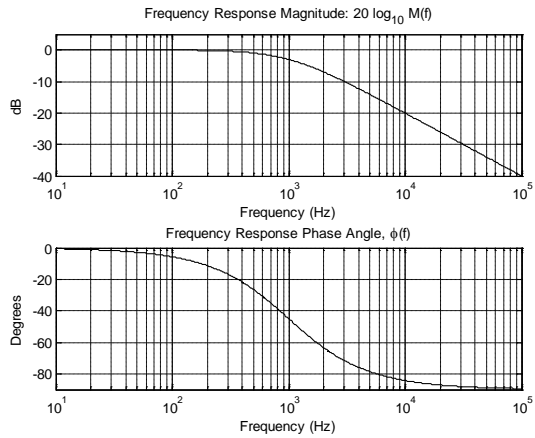
CLASS EXERCISES ON BODE PLOTS**Problem 1:**

Please match each filter below with its corresponding Bode plot from the next two pages. Place the letter of the Bode plot (A-I) under each filter. In each filter, the input is applied at the left terminals (V_s or V_i) and the output is the voltage at the terminals on the right (which has various labels in the circuits below).

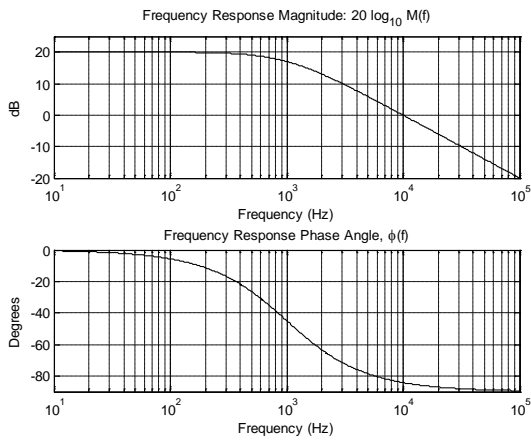




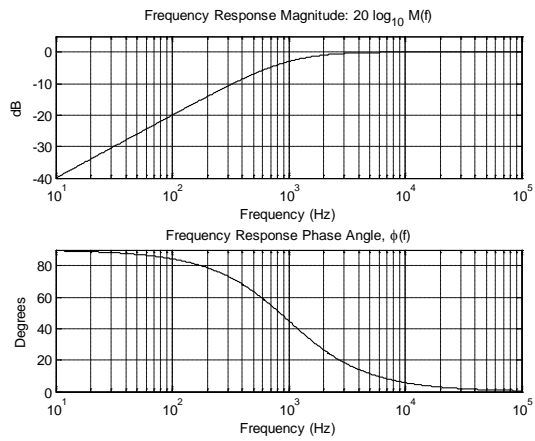
A



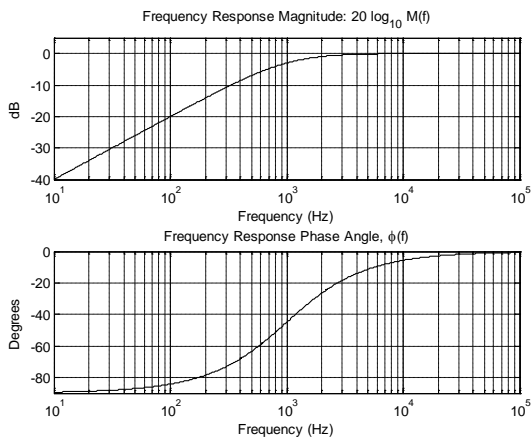
B



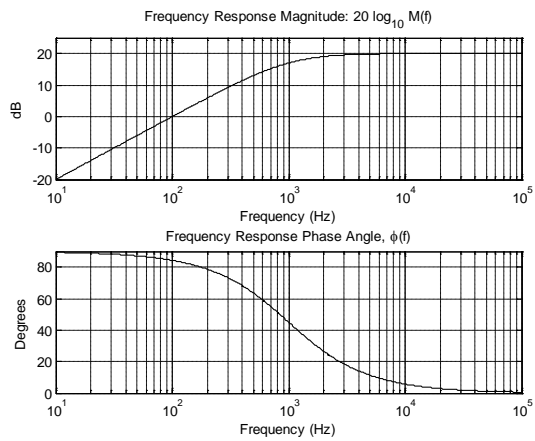
C



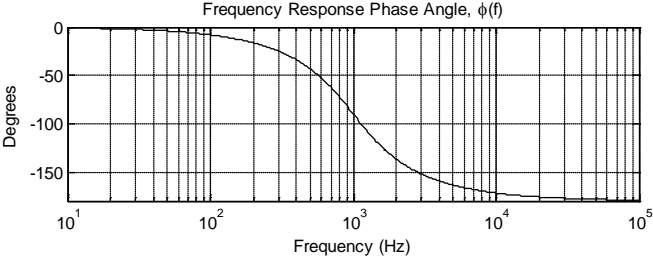
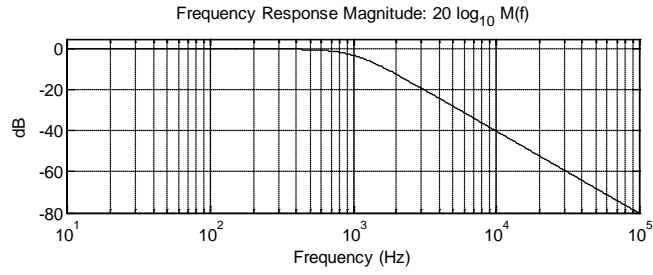
D



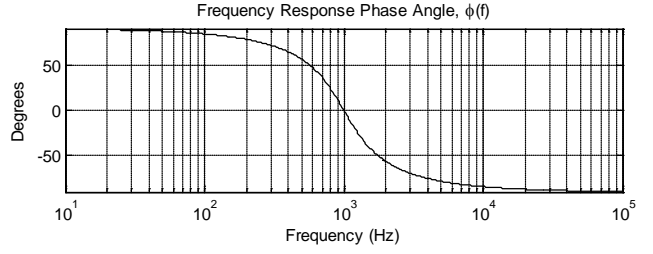
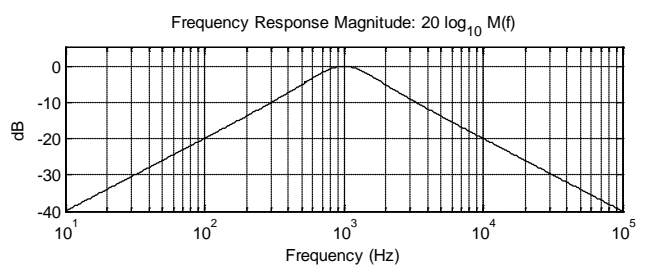
E



F

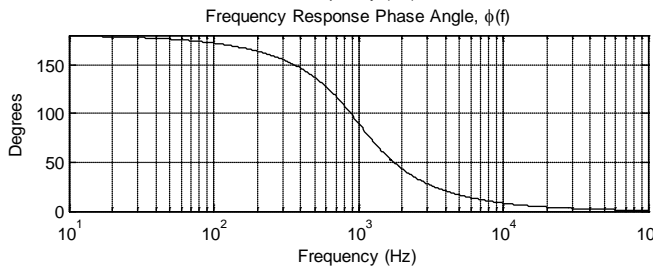
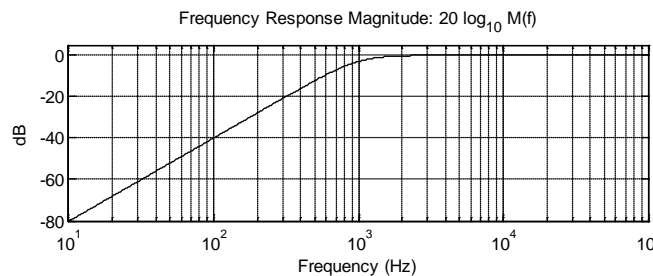


G



H

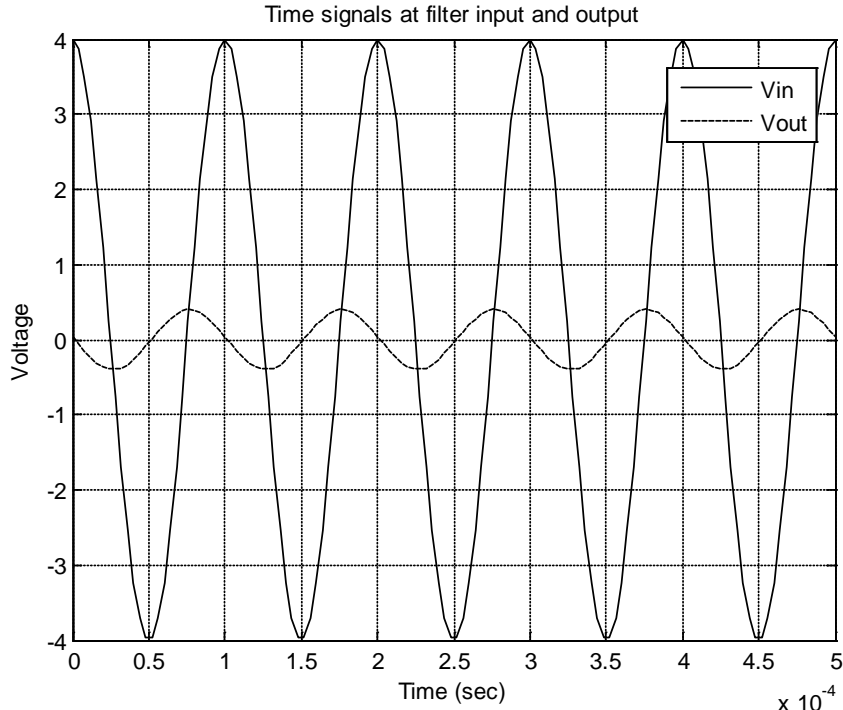
The phase response in H is updated compared with the handout in class on Feb. 14, 2012.



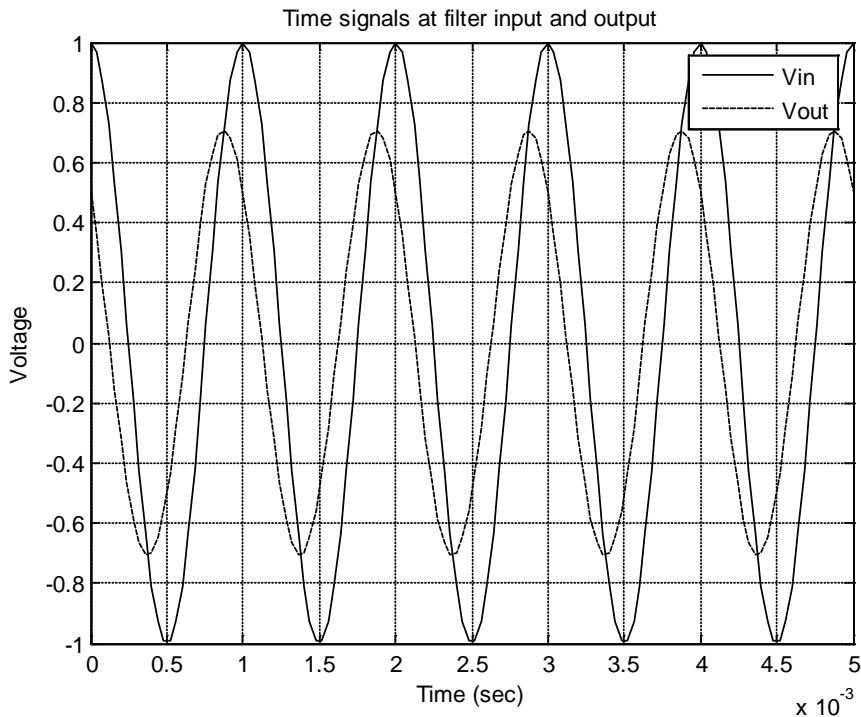
I

Problem 2:

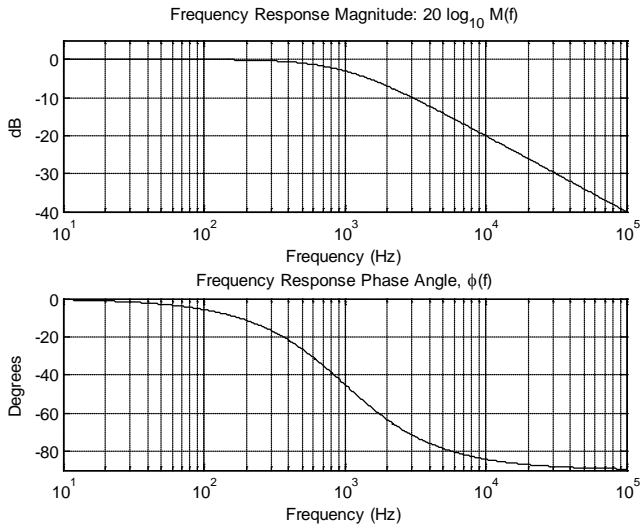
The sinusoidal input and output voltages for two filters are shown below. Find the frequency of each sine wave (in Hz), and then match each time plot with the corresponding Bode plot of the frequency response from the next page. Place a letter A, B, C, or D next to each time plot to indicate the matching Bode plot. (There may be more than one Bode plot that matches one or both time signals.)



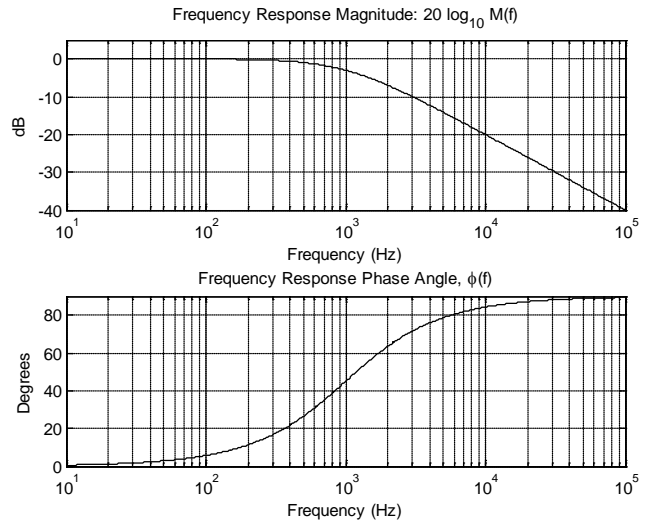
Vin has the larger amplitude.
Vout has the smaller amplitude.



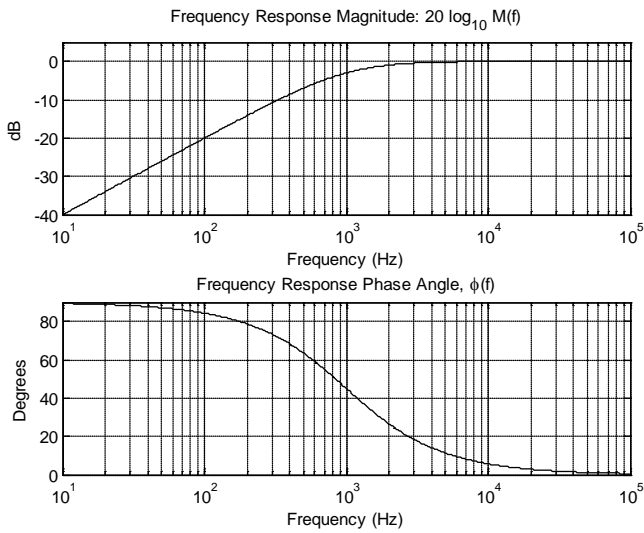
The -3 dB cutoff frequency is 1,000 Hz in each of these filters.



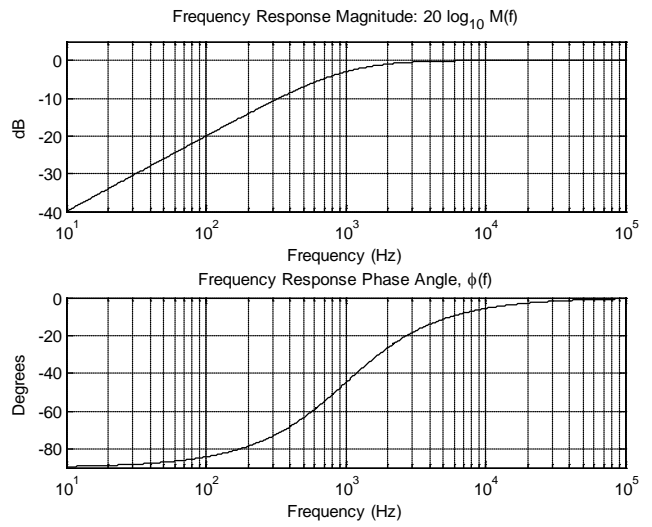
A



B



C



D