

Homework 5 - EECE 352 - Electronics 2 - Winter 2009

Name:

ELECTRONICS II

Due Monday February 2, 2009 in class

For the following three amplifier gain functions, put $A_i(s)$ ($i=1,2,3$) in the following generic form $A_M F_L(s) F_H(s)$. Identify A_M , $F_L(s)$, and $F_H(s)$ for each of the A_i 's and give the values of the low and/or high-frequency poles and zeroes in rad/s.

$$A_1(s) = 10^4 \frac{s(s+10)(s+50,000)}{(s+50)(s+200)(s+7,000)} \quad (1)$$

and

$$A_2(s) = \frac{10^4(s+10^5)}{(s+10^3)(s+10^4)} \quad (2)$$

$$A_3(s) = \frac{10^5 s(s+10^4)}{(s+10)(s+10^3)} \quad (3)$$

For all three $A_i(s)$, estimate the value of the gain (magnitude of $A(s)$ in dB) at $\omega = 1$ rad/s **without making a Bode plot**. Explain how you get your answers.