

Signals & Systems

Student ID Number: _____

Unified Engineering

Spring 2008

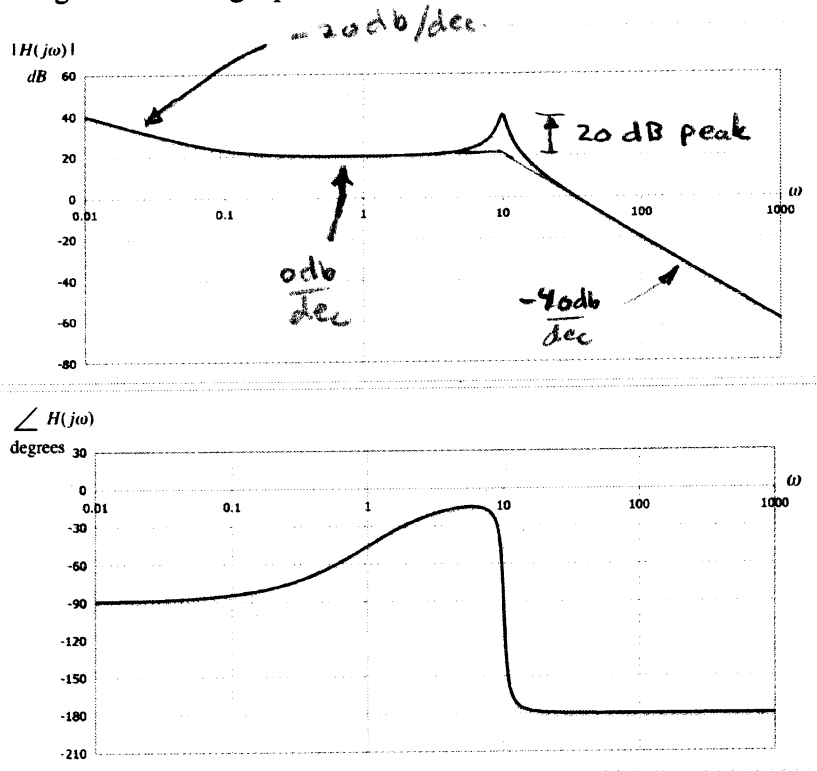
Quiz 4

Wednesday May 7

- 1) Using the diagrams provided on the following page, draw an accurate Bode plot (both magnitude and angle) for the following frequency response function. Plot both the asymptotic approximation to the frequency response and faded-in curves at the break points of the asymptotic approximation. Be sure that break points and the slopes of asymptotes are clearly indicated.

$$H(j\omega) = \frac{100 j\omega}{(j\omega + 0.1)((j\omega)^2 + 10j\omega + 100)}$$

- 2) Determine the frequency response function $H(j\omega)$ that corresponds to the following Bode magnitude and angle plots.



- 3) Find the Laplace transform for the following function of time, plot its pole/zero diagram and indicate the region of convergence.

$$x(t) = \cos t - \sin t$$

