King Fahd University of Petroleum & Minerals
Electrical Engineering Department
EE205: Electric Circuits II (031)
Quiz 9

Serial #

Name: KEY

Make Straight-Line amplitude and phase angle plots for the given transfer function. Show your steps.

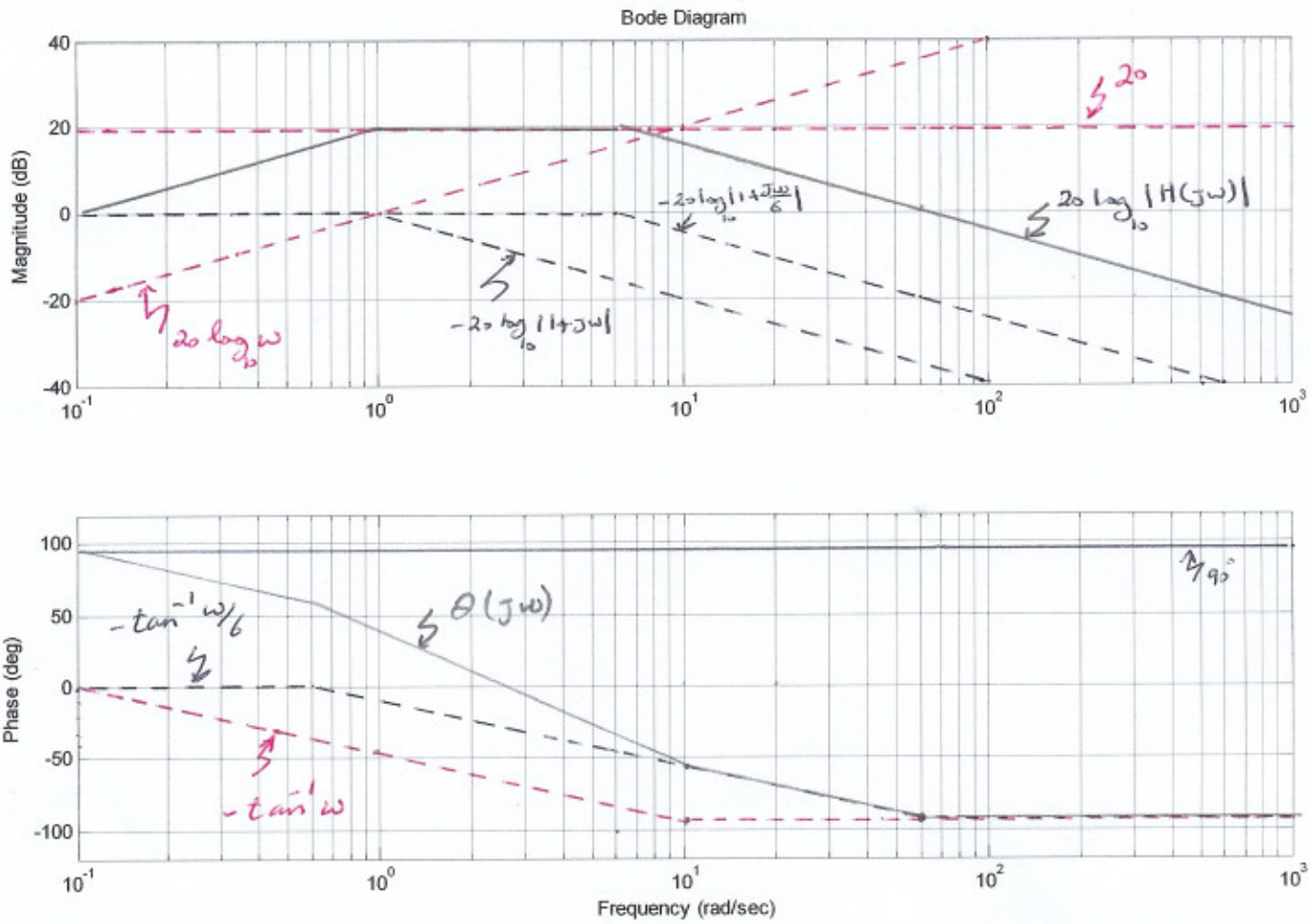
$$H(s) = \frac{60s}{s^2 + 7s + 6}$$

$$H(s) = \frac{60\,s}{(s+1)(s+6)}$$

$$H(j\omega) = \frac{10\,j\omega}{(1+j\omega)\left(1+\frac{j\omega}{6}\right)}$$

$$20\log_{10}|H(j\omega)| = \overbrace{20\log_{10}10}^{20} + 20\log_{10}\omega - 20\log_{10}|1+j\omega| - 20\log_{10}\left|1+\frac{j\omega}{6}\right|$$

$$\theta(j\omega) = 90^\circ - \tan^{-1}\omega - \tan^{-1}\frac{\omega}{6}$$



Good Luck, **Dr. Ali Muqaibel**