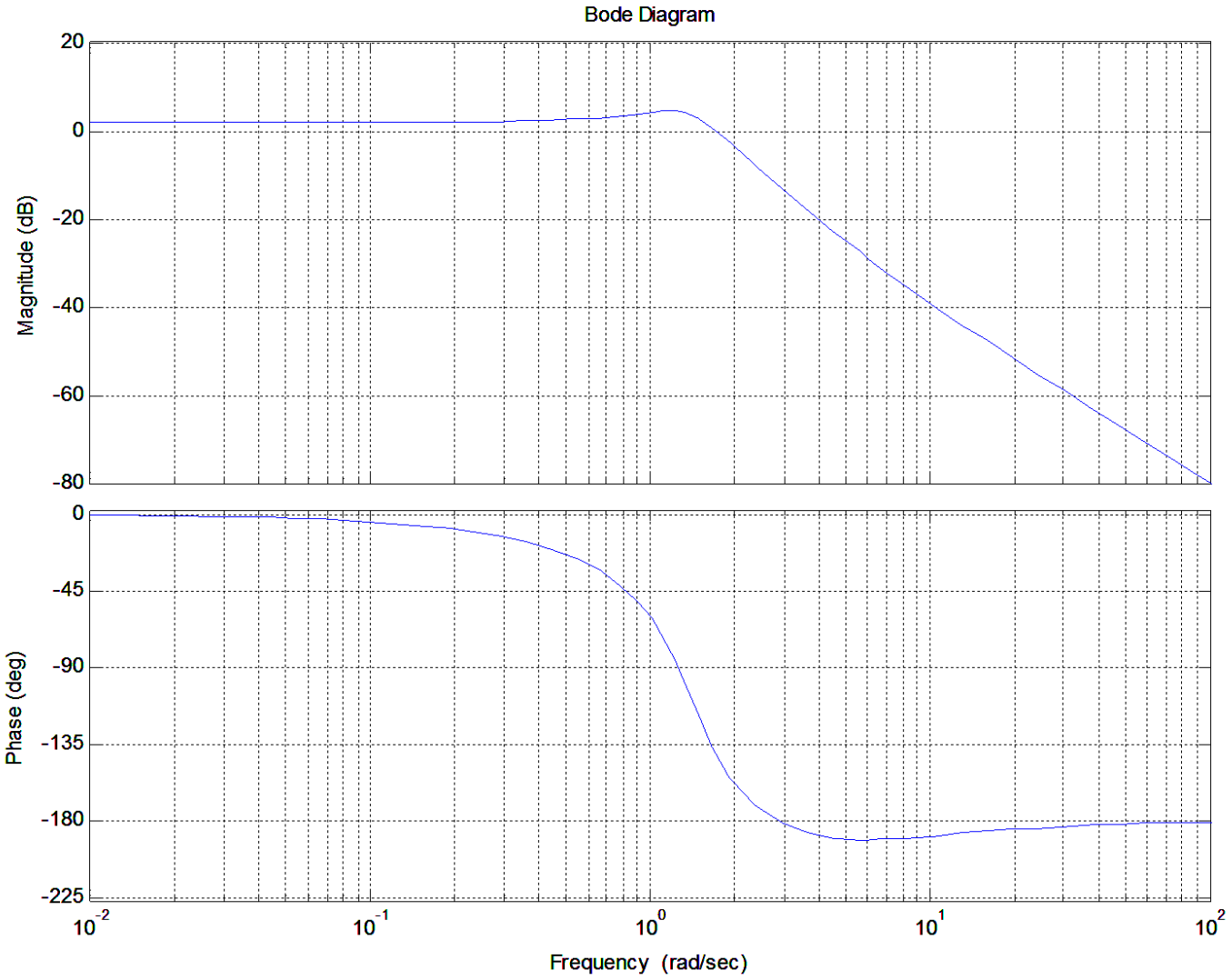
ECE-320 Practice Quiz 7

Problems 1-4 refer to the following open loop Bode plot of $G(s)H(s)$



1) The *gain crossover frequency used to determine the phase margin* for this system is best estimated as

a) 0 rad/sec b) 1 rad/sec c) 1.8 rad/sec d) 12 rad/sec e) 100 rad/sec

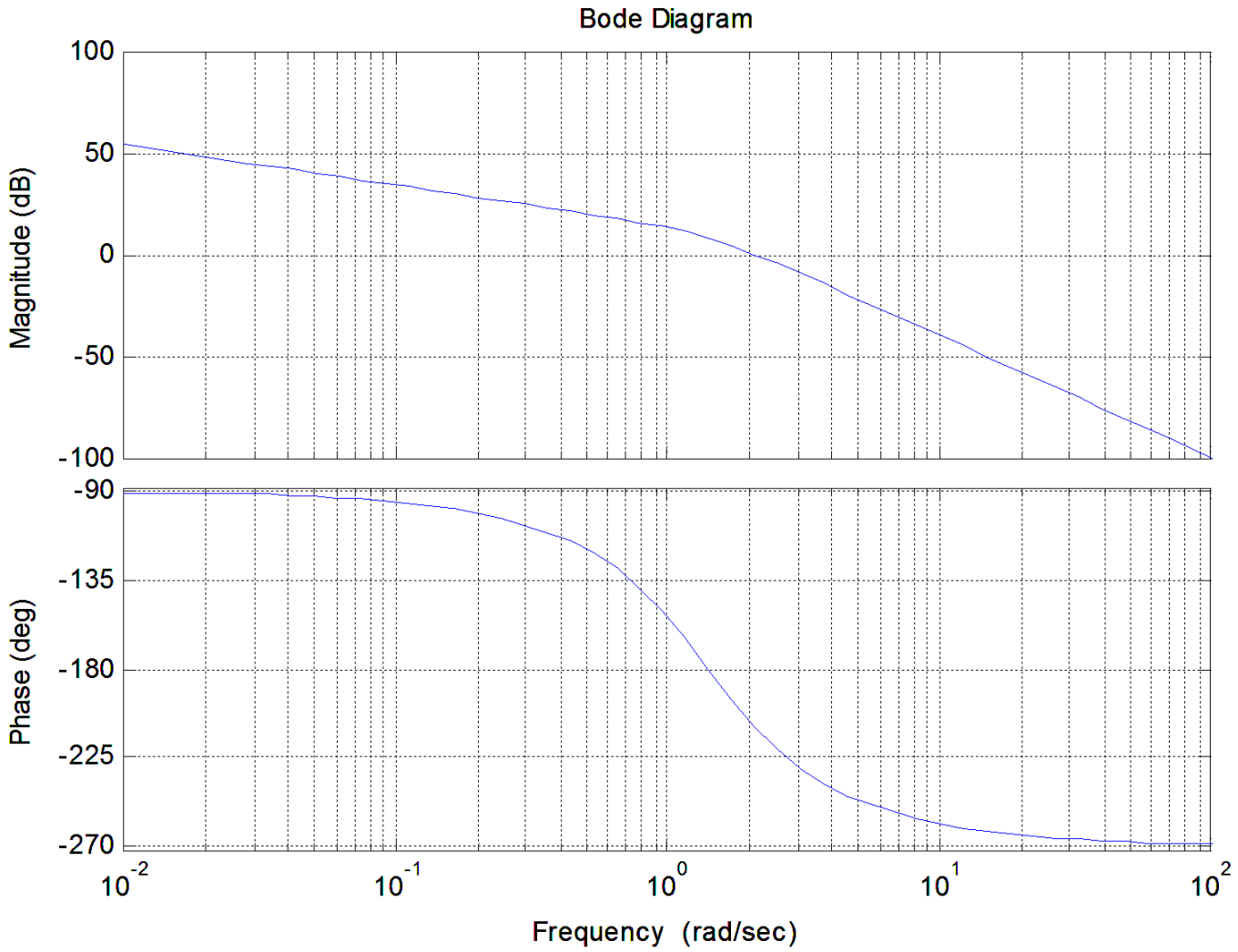
2) The *phase crossover frequency* for this system is best estimated as

a) 0 rad/sec b) 1.8 rad/sec c) 3 rad/sec d) 30 rad/sec e) 100 rad/sec

3) The phase margin for this system is best estimated as a) $+45^o$ b) -45^o c) $+135^o$ d) -135^o

4) The gain margin for this system is best estimated as a) +12 dB b) - 12 dB c) ∞ dB d) -2 dB

Problems 5-8 refer to the following open loop Bode plot of $G(s)H(s)$



5) The *gain crossover frequency used to determine the phase margin* for this system is best estimated as

a) 0 rad/sec b) 1 rad/sec c) 1.5 rad/sec d) 2 rad/sec e) 100 rad/sec

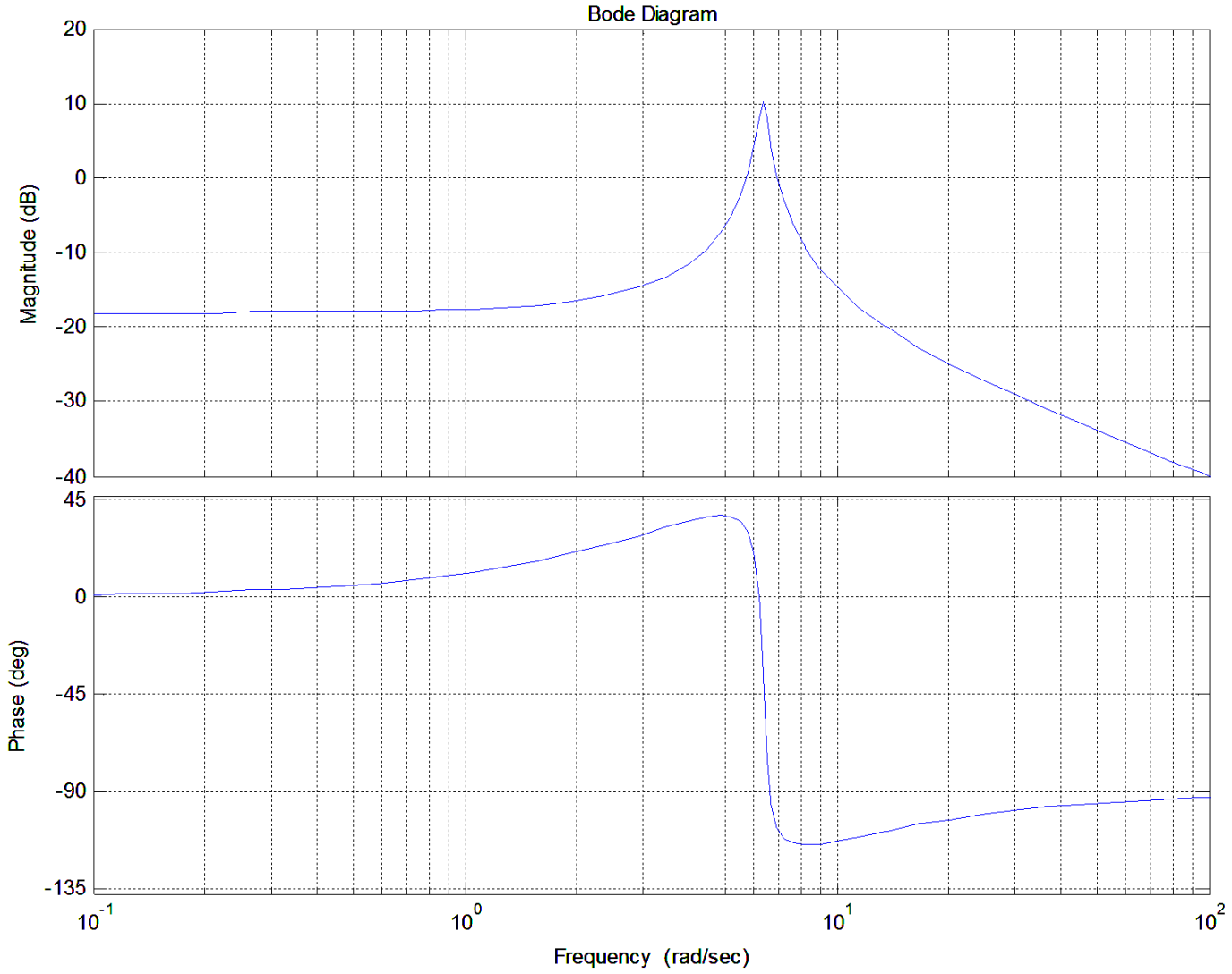
6) The *phase crossover frequency* for this system is best estimated as

a) 0 rad/sec b) 1 rad/sec c) 1.5 rad/sec d) 2 rad/sec e) 100 rad/sec

7) The phase margin for this system is best estimated as a) $+30^o$ b) -30^o c) $+60^o$ d) -60^o

8) The gain margin for this system is best estimated as a) +5 dB b) - 5 dB c) ∞ dB d) 0 dB

Problems 9-12 refer to the following open loop Bode plot of $G(s)H(s)$



9) The *gain crossover frequency used to determine the phase margin* for this system is best estimated as

a) 0 rad/sec b) 5.5 rad/sec c) 7 rad/sec d) 15 rad/sec

10) The *phase crossover frequency* for this system is best estimated as

a) 0 rad/sec b) 1 rad/sec c) 1.5 rad/sec d) 2 rad/sec e) none of these

11) The phase margin for this system is best estimated as a) $+70^o$ b) -70^o c) $+135^o$ d) -135^o

12) The gain margin for this system is best estimated as a) +5 dB b) - 5 dB c) ∞ dB d) 0 dB

Answers: 1-c, 2-c, 3-a, 4-a, 5-d, 6-c, 7-b, 8-b, 9-c, 10-e, 11-a, 12-c