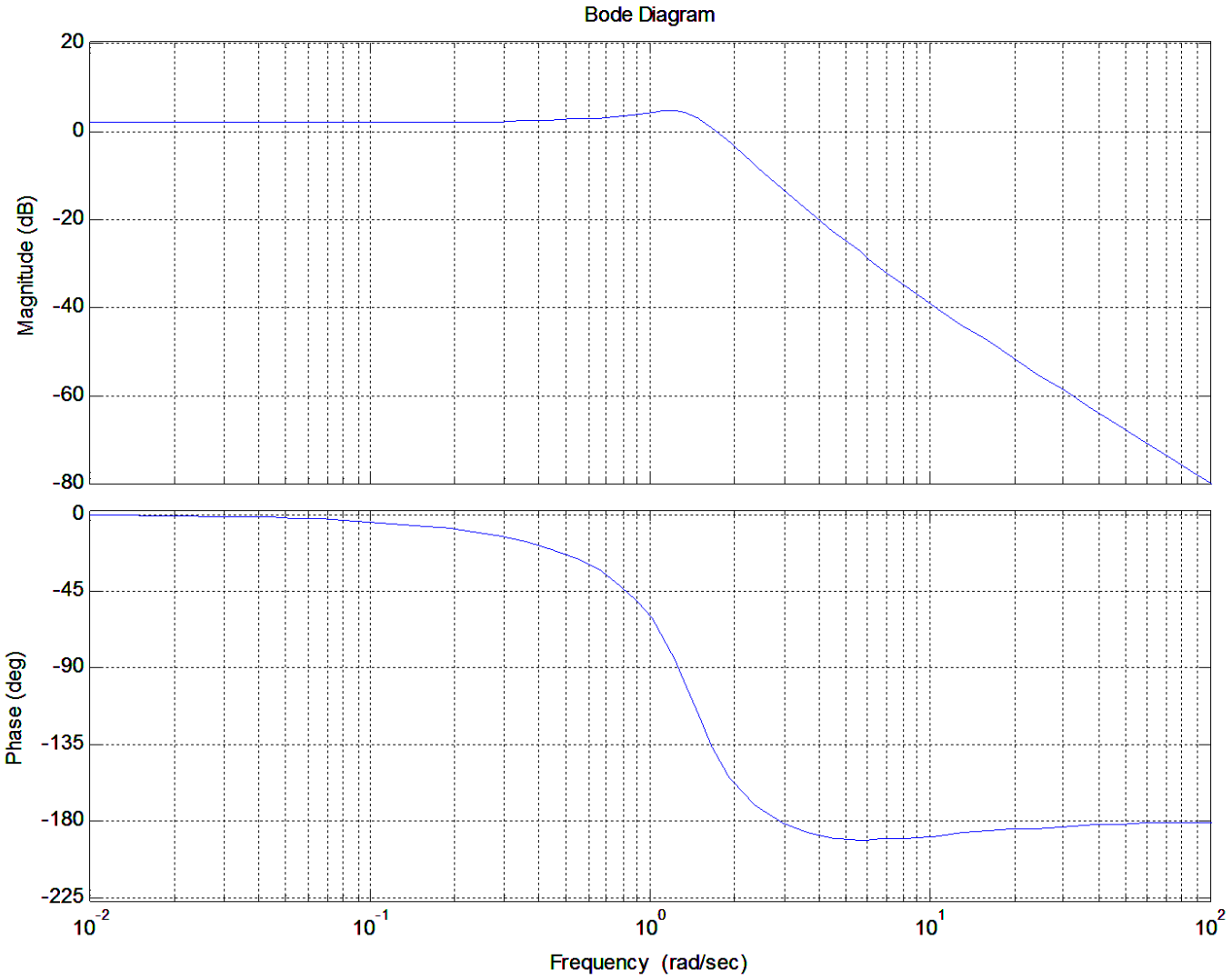
# ECE-320 Practice Quiz 8

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

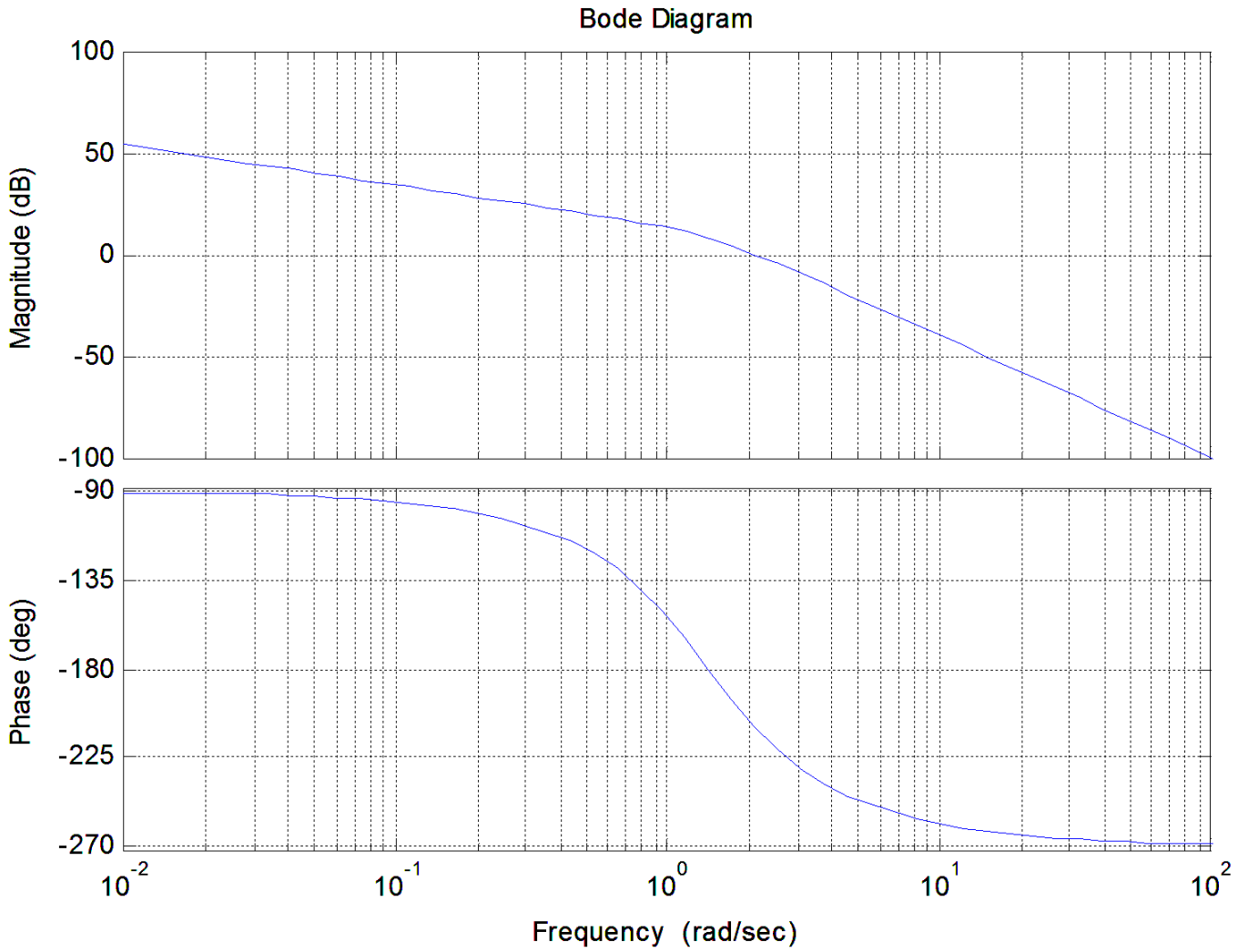
**2)** The *phase crossover frequency* for this system is best estimated as

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) $\infty$ 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

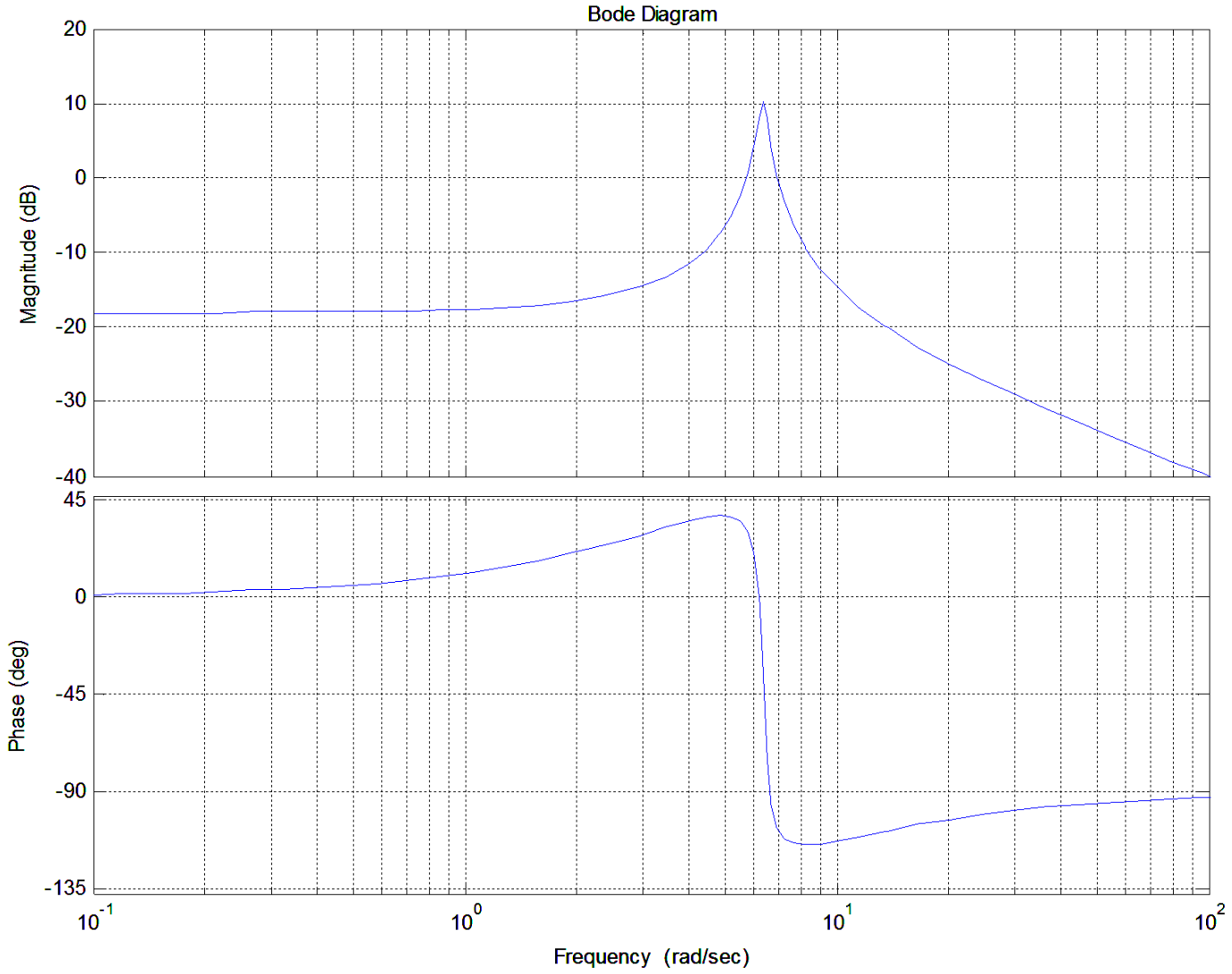
**6)** The *phase crossover frequency* for this system is best estimated as

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) $\infty$ 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) $\infty$ 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*