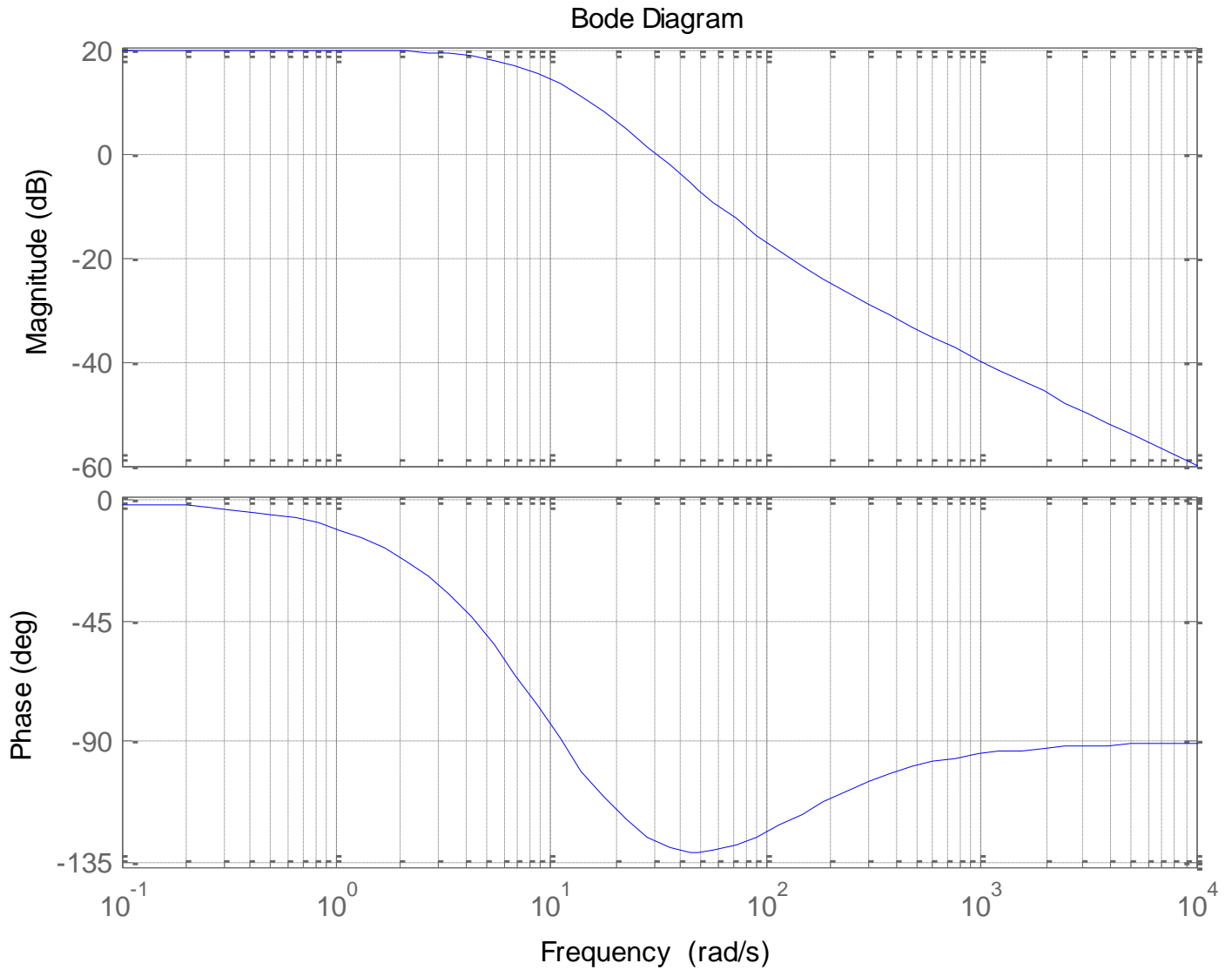# ECE-320 Quiz 8

Problems 1 and 2 refer to the following open loop Bode plot of $G(s)H(s)$
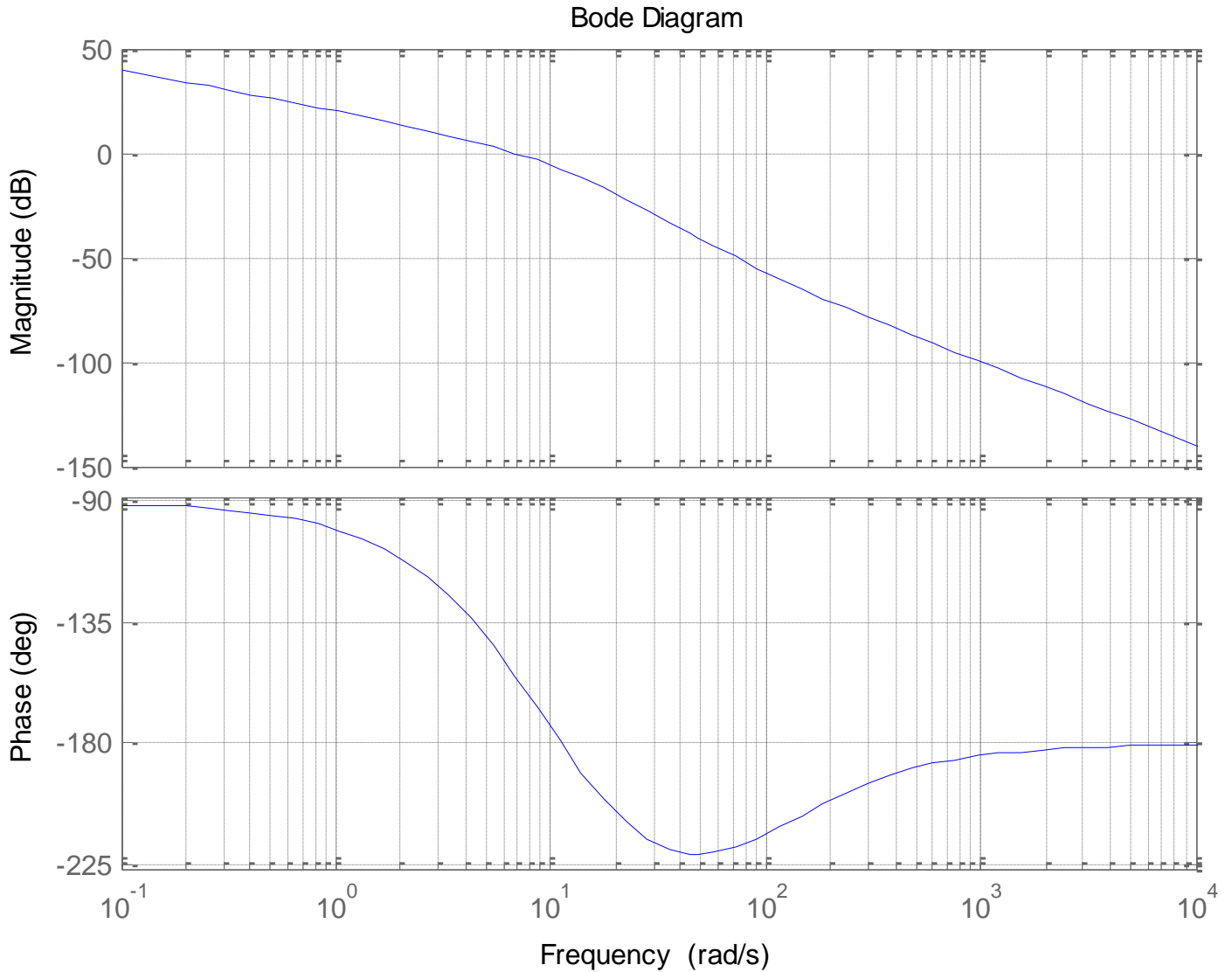
Bode Diagram

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

a) 0.1 rad/sec   b) 13 rad/sec   c) 30 rad/sec   d) 100 rad/sec   e) 300 rad/sec

2) The phase margin for this system is best estimated as   a) $+55^o$ b) -55° c) $+90^o$ d) -90°

Problems 3-6 refer to the following open loop Bode plot of $G(s)H(s)$

Bode Diagram

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

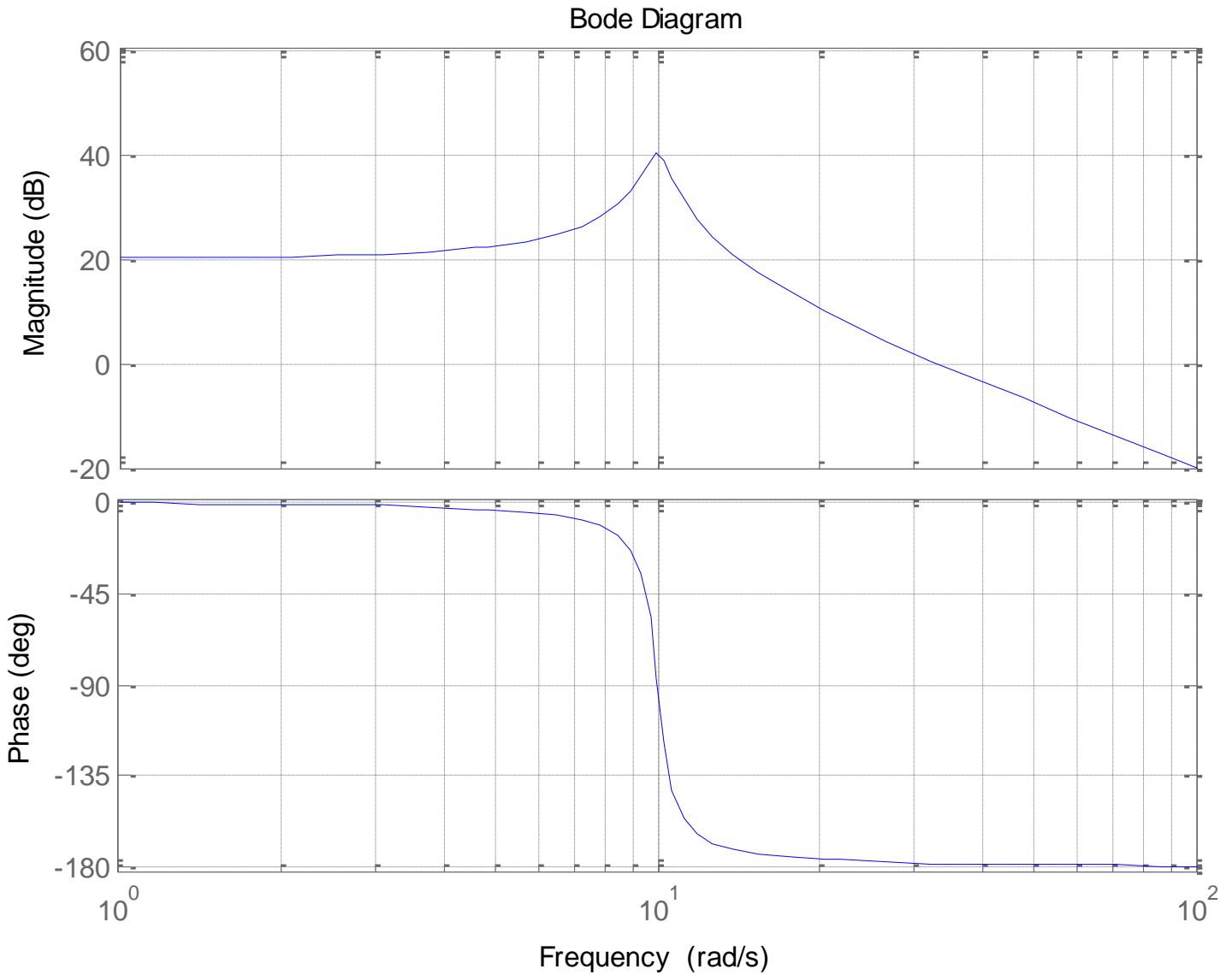a) 0 rad/sec   b) 1 rad/sec   c) 6 rad/sec   d) 10 rad/sec   e) 60 rad/sec

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

a) 0 rad/sec   b) 1 rad/sec   c) 6 rad/sec   d) 10 rad/sec   e) 60 rad/sec

5) The phase margin for this system is best estimated as   a) $+25^o$ b) -25° c) $+45^o$ d) -45°

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

Problems 7-10 refer to the following open loop Bode plot of $G(s)H(s)$

Bode Diagram

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

a) 0 rad/sec   b) 10 rad/sec   c) 13 rad/sec   d) 32 rad/sec
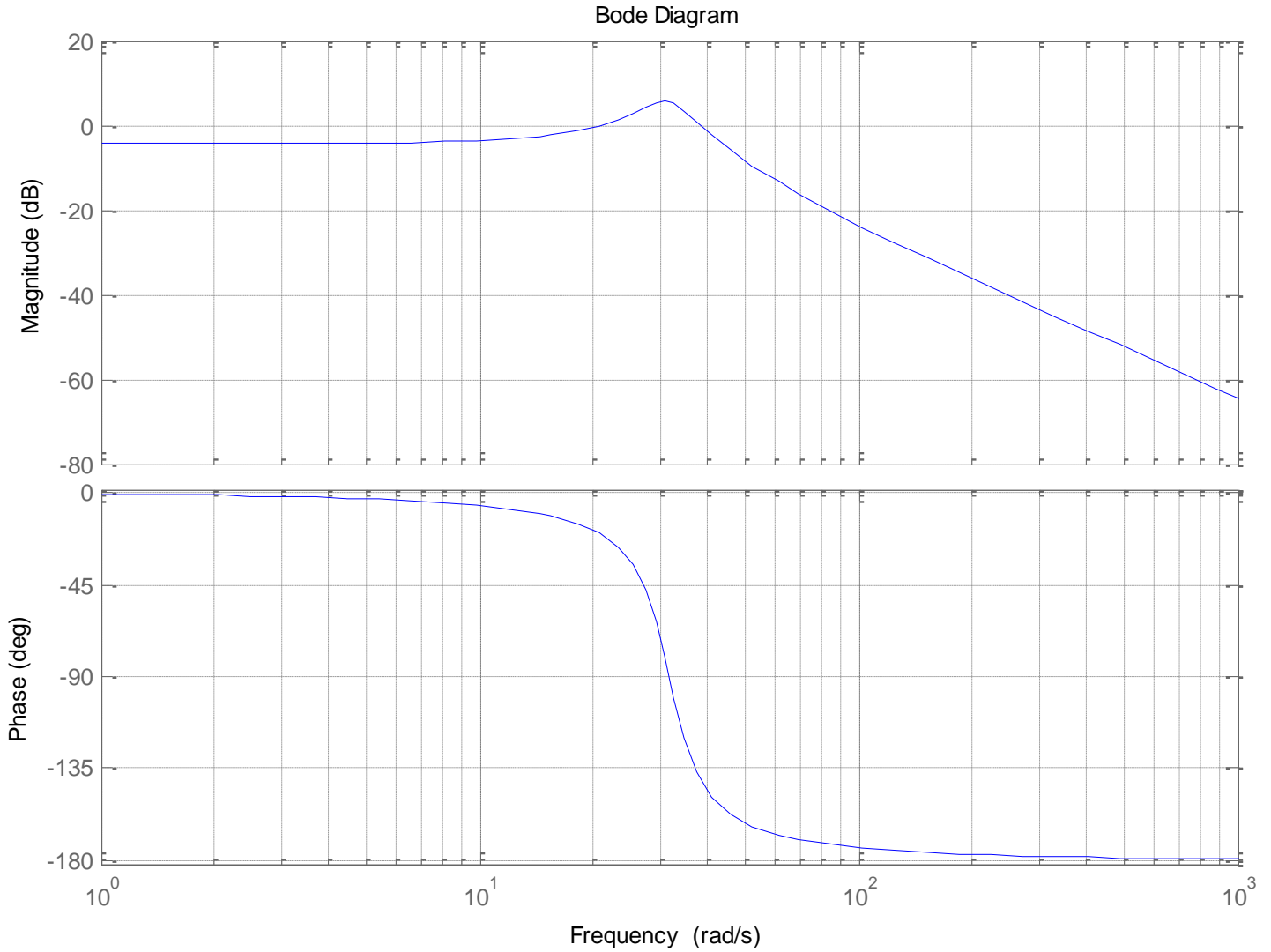
8) The *phase crossover frequency* for this system is best estimated as

a) 0 rad/sec   b) 1 rad/sec   c) 10 rad/sec   d) 20 rad/sec   e) none of these

9) The phase margin for this system is best estimated as   a) $+2^o$ b) -2° c) $+90^o$ d) -90°

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

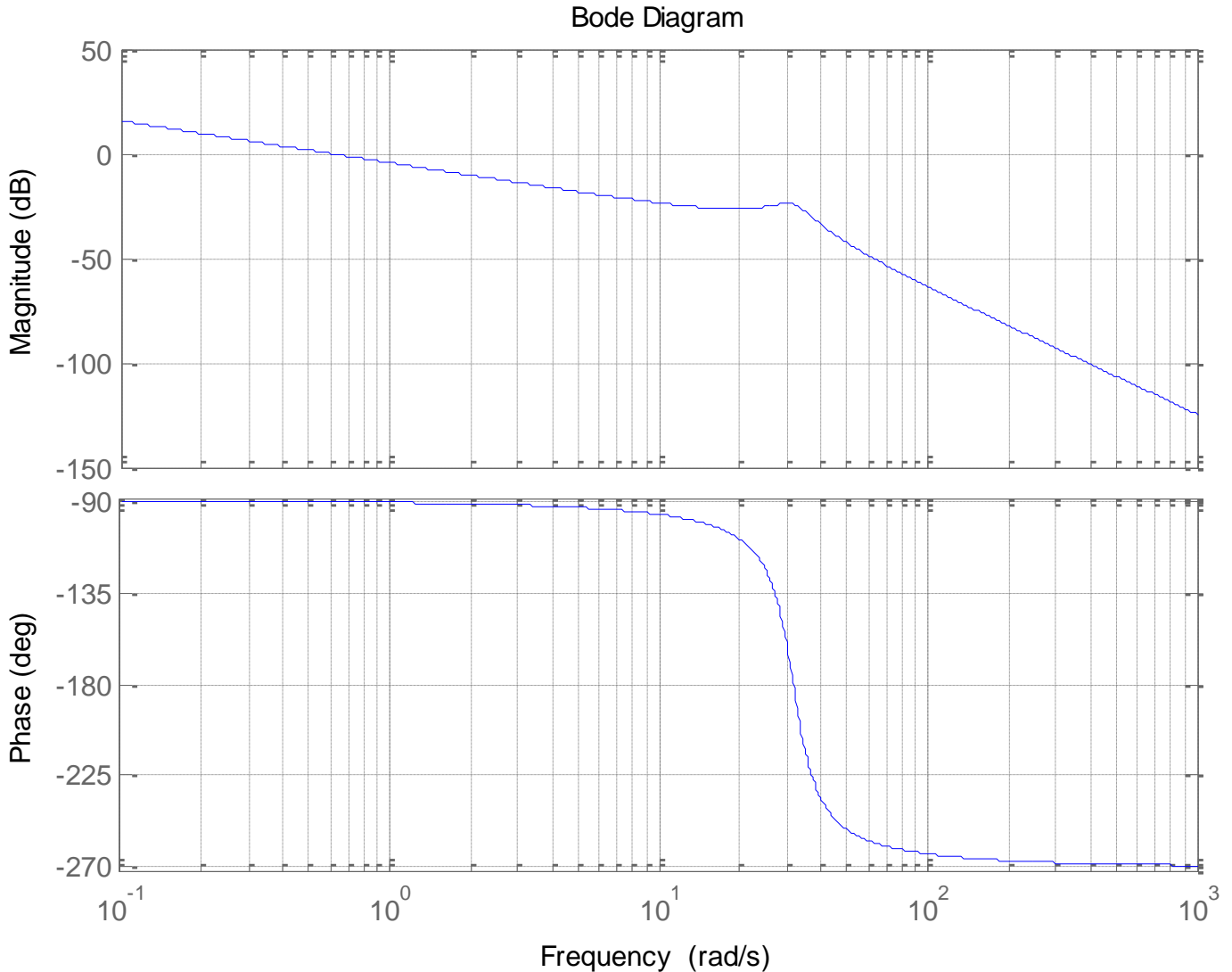Problems 11 and 12 refer to the following open loop Bode plot of $G(s)H(s)$

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

a) 11 rad/sec   b) 20 rad/sec   c) 30 rad/sec   d) 40 rad/sec

12) The phase margin for this system is best estimated as   a) $+150^o$ b) $+120^o$ c) $+40^o$ d) -150°

Problems 13-16 refer to the following open loop Bode plot of $G(s)H(s)$

Bode Diagram

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

a) 0.1 rad/sec   b) 0.6 rad/sec   c) 13 rad/sec   d) 30 rad/sec

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

a) 0 rad/sec   b) 10 rad/sec   c) 13 rad/sec   d) 30 rad/sec

15) The phase margin for this system is best estimated as   a) $+90^o$ b) -90° c) $+20^o$ d) -20°

16) The gain margin for this system is best estimated as   a) $+25$ dB   b) $- 25$ dB   c) ∞ dB   d) 0 dB

Name _____   CM _____