

Homework 6:

1) Problem 10.1 from Razavi

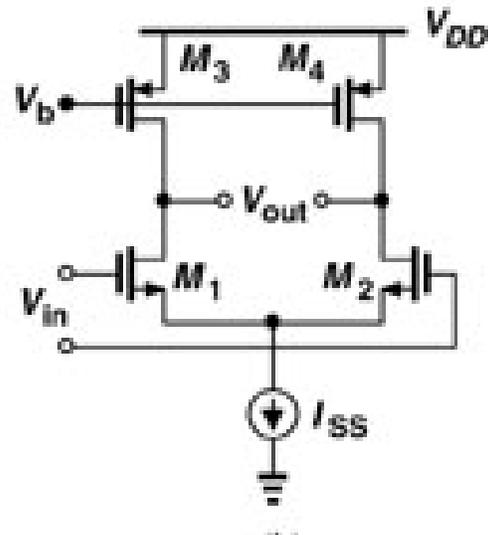
2) An amplifier has two poles, one at -1MHz and the second at -160MHz . The unity gain frequency is 200MHz . What value of beta should be chosen so that the overall amplifier has a phase margin of 60° .

2) An amplifier is connected in feedback, and the phase margin is 60° . Calculate the gain at the frequency at which the loop gain falls to 1.

3) A capacitor C_L is connected between the output terminals of the amplifier. Assume all the devices are in saturation and that the gain is positive.

a) Derive an expression for the unity gain frequency

b) What is the phase at unity gain?



4) Problem 10.9(a) from Razavi.