Department of Electrical Engineering
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EE 210 **END-SEM P6** **6.5.21**

M_1-M_2 perfectly matched. I_{SS} ideal. Neglect base current, body effect, CLM effect, and Early effect. Other data: For M_1-M_2: V_{TN0} = 1 V, k'_N = 40 μA/V^2, W/L = 80; for Q_3: β = 100.

a) Choose R_L, R_1, and R_2, such that the DC levels of the voltages at nodes A and B are 2.3 V and 0 V respectively, and I_1 = 100 μA (DC). **3**

b) What is the voltage dropped across I_{SS}? **3**

c) Using the results of part a), find the ac small-signal midband voltage gain v_0/v_i. **6**