Department of Electrical Engineering
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EE 210 **END-SEM P2** **6.5.21**

C_1 is an extremely large value capacitor. 100 μA and 1 mA current sources are ideal. Neglect base current, Early effect, body effect, and CLM effect. Other data: for M_1: g_{m1} = 200 μA/V, C_{gs1} = 10 pF, C_{gd1} = 1 pF, neglect C_{sb1} and C_{db1}; for Q_2: β_2 = 200, $C_{\pi 2}$ = 20 pF, $C_{\mu 2}$ = 2 pF.

a) Evaluate the ac small-signal midband transresistance (v_0/i_s). **3**

b) Using ZVTC method, evaluate the fall time of v_0 for pulse response. **8**

c) Which capacitor is primarily responsible for this performance? Justify. **1**