

**DEPARTMENT OF ELECTRICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY, KANPUR**

EE 210

MINI-QUIZ #5A

10.3.21

Total Marks: 10

Total Time: 10 mins.

V_i, V_o have both DC (V_I, V_O) and ac (v_i, v_o) components.

a) Choose R_S and V_I such that V_o does not have any DC offset, and the DC power dissipation of the circuit is $600 \mu\text{W}$.

b) Evaluate A_v ($= v_o/v_i$) and R_0 .

Data: $V_{TN0} = 0.7 \text{ V}$, $k'_N = 40 \mu\text{A/V}^2$, $(W/L) = 10$, $\gamma = 0.4 \text{ V}^{1/2}$, $\phi_F = 0.35 \text{ V}$, and neglect CLM effect.

