

Midterm #3
10:20-11:20

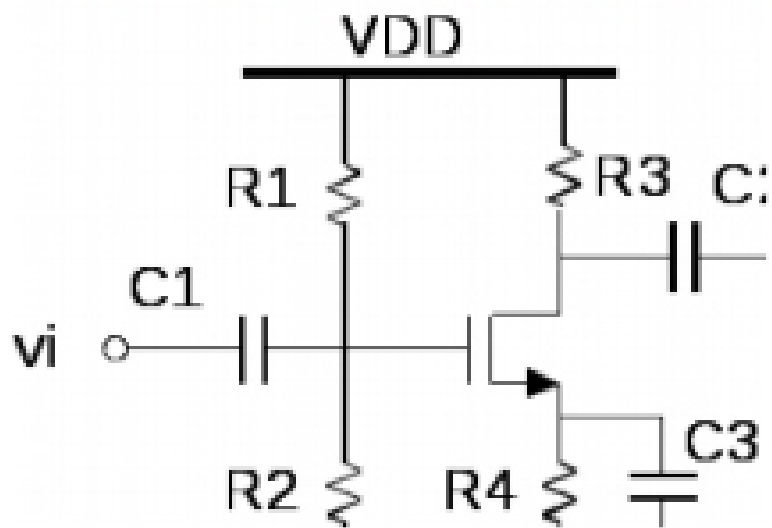
Name:

Last 4 digits UIN:

Question 1. 40 points

For the circuit shown in the figure below, **assume that the value of the capacitors is finite**. Minimize your algebra.

1. DC Analysis. Find the expression for the drain current, gate voltage, drain voltage and source voltages. 10 points



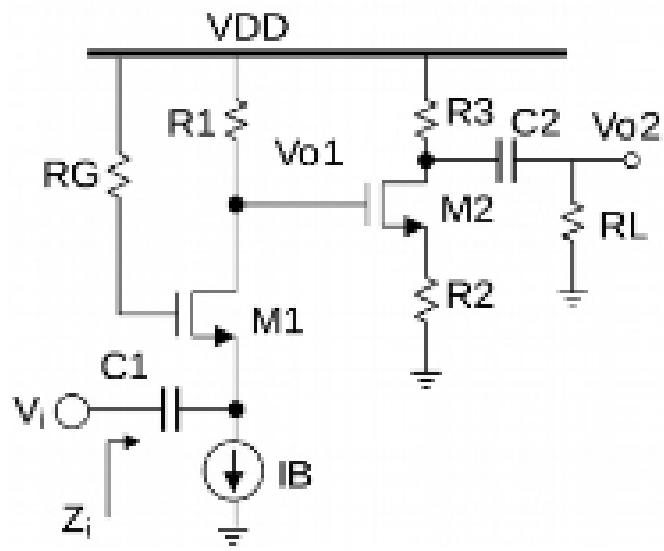
2. Find the expression for v_o/v_i . 15 points

3. Find the expression for v_{o2}/v_i . 15 points

Question 2. 35 points

For the circuit shown in the figure below, assume that I_B is a DC current source. Assume that the transistors are operating in a region where you can use them as an amplifier (saturation region).

1. Find the expression for the input impedance Z_i . 10 points.



2. Voltage gain (V_{o1}/V_i). 12.5 points.