

Name

PID

UNIVERSITY OF CALIFORNIA, SAN DIEGO

Electrical and Computer Engineering Department

ECE 65 – Spring 2021

Components and Circuits lab

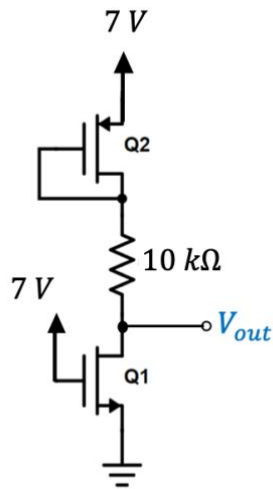
Midterm Exam2

You should submit your handwritten solutions in a PDF format to Gradescope on Friday, 5/10, by 1:50 pm (Pacific Time).

There is one question on this test.

In the following circuit, $V_{out} = 0.3\text{ V}$, and $V_{tn} = |V_{tp}| = 1\text{ V}$, $k_p = 0.5\text{ mA/V}^2$, $\lambda = 0$

- Find the mode of operation of each transistor.
- Find the current flowing through the $10\text{ k}\Omega$ resistor.
- Find the node voltage at the gate of Q2.



Show your work and include justifications. Label the node voltages (or voltage differences) and currents.