

Name: \_\_\_\_\_  
TA: \_\_\_\_\_  
Section: \_\_\_\_\_

### MOSFET Prelab

1. Explain how the XY mode works on the oscilloscope. What signals control the horizontal and vertical position of the dot on the display?
2. What DUT current  $I_{DUT}$  would correspond to a measured voltage of 50 mV across  $R_M$ , the resistor in series with the DUT?
3. You want to use the curve tracer to verify that an electronic device is working properly. For a resistor  $R_{DUT}$  as the DUT, what is the relation between voltage measured on A2 and voltage measured on A1?
4. Sketch the I-V curve of a diode, noting the approximate turn-on voltage. Since the scope measures voltage, modify the Y-axis to represent A2 of the scope ( $R_M=1k$ ).
5. Find the relationship between sinusoidal applied voltage and resulting current for a capacitor. Assume  $V_C = V_{A1pk} \sin(\omega t)$ .