

Name \_\_\_\_\_ Avery Peiffer \_\_\_\_\_

## **ECE 0257 Quiz #6 Reflection**

You should have received an email containing a link to your submission for this quiz.

### **Instructions**

- Briefly review your quiz
- Use SPICE to model and simulate the problem
- Based on the simulation results, re-examine / re-solve the problem and try to identify where you made a mistake, gaps in your knowledge or new insights you gain from simulating the problem
- Fill out the worksheet on the following pages.

### **Grading**

- 50% of your overall score for this quiz will be determined by your original in-class performance
- The remaining 50% of your score will be determined by the responses you submit on this worksheet

**PLEASE NOTE: The MOSFET used in this quiz is the same one from the previous two homework assignments, the 2N7000**



### Final Answers

#### Source Resistance (RS)

6.39 kilo-ohms

#### Drain Resistance (RD)

152 ohms

\*One way to simulate these problems is to perform a DC bias point analysis. If it appears that the voltage/current annotations are not updating after running simulation experiments, then close your schematic, re-open it and toggle the voltage/current markers (  and  ) off and then back on. Alternatively, solutions can also be explored via transient and DC analyses. **In many instances, this proves to be more reliable.**

\*Note, there may be slight differences between your final responses and numerical values that you determined via simulation. The final responses indicated above should represent results from hand calculations.

**Being able to analyze your quiz and reflect on your thinking process is an essential part of learning.**

- **If the answers you entered above are different in any way from the answers you provided on your original quiz submission, then please provide an explanation by answering the questions on the following page**
- **If re-examining the quiz did not result in you gaining new insights about the problem, identifying mistakes, or gaps in your knowledge then enter n/a in the boxes below.**

**Explain the source of any differences between your quiz responses or calculations and the simulated results.**

I used the wrong expression for the partial voltage gain. I didn't have the correct expressions memorized so I was not able to think of the correct one. I don't think any of our homework problems used common gate amplifiers so I did not have that equation memorized.

### **How can you use this comparison experience to improve in the future?**

I know that my DC analysis of these amplifiers is pretty solid, so that is not an area that I have to focus a lot of my energy towards. My issue with these types of problems has been recognizing the type of amplifier and applying the correct equations accordingly, so I have further confirmed that that is what I need to do better.