UNIVERSITY OF UTAH
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
ECE 2280

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01/14

100 pts Lab #4 Notebook Grading

THE FOLLOWING ITEMS ARE REQUIRED:

- Student's work reproducible from notebook.
- Title and date for each lab section.
- Written in ink.
- Student signed every page.
- Student dated every page.

50 pts EXPERIMENT 1(DESIGN AND SIMULATION):

10 pts (1) Circuit design shows hand analysis for
- 4 pts $I_D = 0.6mA$
- 2 pts VS=3V
- 2 pts VD around 9V
- 2 pts Rin>15k

5 pts (2) PSpice simulation verifying
- 1 pt Circuit schematic from PSpice
- 1 pt $I_D = 0.6mA$
- 1 pt VS=3V
- 1 pt VD around 9V
- 1 pt Rin>15k

5 pts (3) Hand analysis that shows the results for gain, Rin, and Rout

10 pts (4) PSpice AC sweep simulation verifying
- 3 pts Magnitude Bode Plot showing gain
- 3 pts Magnitude Bode Plot showing Rin
- 3 pts Magnitude Bode Plot showing Rout
- 1 pt low frequency cut-off location marked or noted.

5 pts (5) PSpice AC sweep simulation showing the magnitude Bode Plot for no RL.

15 pts (6) PSpice transient simulation:
- 4 pts Load resistor connected – Vin vs Vout graph
- 4 pts Comparison of gain value to #4
- 4 pts No load resistor connected – Vin vs Vout graph
- 3 pts Comparison of gain value to #5

50 pts EXPERIMENT 2(PROTOTYPE):

10 pts (1) Circuit built and connected correctly.

5 pts (2) DC Measurements
- 1 pt VD
- 1 pt VS

1 pt VG
2 pt ID

10 pts (3) Measurements
3 pts Peak to peak value of VD
3 pts Peak to peak value of Vsig
2 pts open circuit amplication
2 pt comparison to hand and simulation values

5 pts (4) Max output voltage before distortion

10 pts (5) AC Amplification with RL
4 pts VD value.
4 pts Amplification value.
2 pts Comments on value and comparison to simulation and hand analysis.

10 pts (6) Frequency response
3 pts low frequency value found.
3 pts high frequency value found.
2 pts Bandwidth stated.
2 pts Comparison of values to simulation.