

100 pts Project #1 Lab Work: Get this checked by your TA

25 pts **NOTEBOOK:**

- | | | |
|---------------|----|--|
| <u>5 pts</u> | 1. | Check that their lab notebook is organized. |
| <u>5 pts</u> | 2. | Description of the project. |
| <u>5 pts</u> | 3. | Description of the design work. |
| <u>10 pts</u> | 4. | Design Work: |
| 3 pt | | Schematic of the circuit (PSpice printout or drawn out by hand). |
| 4 pts | | All hand calculations |
| 3 pts | | Comparison of PSpice simulation versus measured |

75 pts **PROTOTYPE:**

- | | | |
|---------------|----|--|
| <u>35 pts</u> | 1. | Dual power rails |
| | | Some of the measurements may include: curve tracer volt-ampere characteristics of both diode devices, load current, load voltage, voltage ripple, voltage regulation, component power dissipation, component voltages and currents. This is not a complete list. You must decide which measurements are relevant to your design and important to a potential user of your power supply. In many cases it is necessary to record AC waveforms; measurement with a multi-meter is not sufficient (use the oscilloscope). |
| <u>17 pts</u> | 2. | Top rail within voltage ripple of 1% |
| <u>17 pts</u> | 3. | Bottom rail within voltage ripple of 1% |
| <u>6 pts</u> | 4. | Power |
| | | Record the power dissipation in the various components. Is this a significant factor? How would this affect the long-term operation of the circuit? |