

University of Michigan
EECS 311: Electronic Circuits
Fall 2009

PROBLEM SET 4

Issued 9/30/2009
Due in Lecture 10/7/2009

J&B refers to the course text: "Microelectronic Circuit Design (3rd Edition)," by Richard Jaeger and Travis Blalock.

P4.1 Do problem J&B 12.74.

P4.2 Do problem J&B 12.75.

P4.3 Do the following problems from J&B:

3.21, 3.22, 3.24, 3.66, 3.69, 3.71,

3.98 (assume ideal diodes, and voltages on the capacitors are initially 0V at time $t = 0$)

3.119,

11.91 (use the constant voltage drop diode model with $V_{ON} = 0.5V$).

P4.4 For the circuit below, assume $v_{in} = 0.5 \cos(\omega t)$ where $\omega \ll 1/RC$. Use the constant voltage drop model for the diodes with $V_{on} = 0.6V$ and assume the opamp is ideal. Sketch the waveforms at v_{out} and v_{oamp} for the first two complete periods of v_{in} , assuming $v_{in} = 0$ for $t < 0$.

