

**ECE 300**  
**Spring Semester, 2003**  
**HW Set #1**

**Due: January 22, 2003**

**Name** \_\_\_\_\_

wlg

Print (last, first)

Use engineering paper. Work only on one side of the paper. Use this sheet as your cover sheet, placed on top of your work and stapled in the top left-hand corner. Number the problems at the top of the page, in the center of the sheet. **Do neat work. Underline your answers. Show how you got your equations. Be sure to show how you got your answers.** Each problem counts 6 points.

Work the following problem from the text.

1.15

$$\begin{aligned} \text{(a) } P_{24V} &= -48 \text{ W} \\ P_1 &= 20 \text{ W} \\ P_2 &= 28 \text{ W} \end{aligned}$$

$$\begin{aligned} \text{(b) } P_{18V} &= -18 \text{ W} \\ P_{12V} &= 12 \text{ W} \\ P_1 &= 6 \text{ W} \end{aligned}$$

1.17  $P_{36V} = -144 \text{ W},$

$P_1 = 48 \text{ W},$

$P_2 = 48 \text{ W}$

$P_{DS} = -8 \text{ W}$

$P_3 = 56 \text{ W}$

119 All as absorbed

$$\begin{aligned} P_{10V} &= 30 \text{ W} \\ P_{6V} &= 18 \text{ W} \\ P_{8V} &= 48 \text{ W} \end{aligned}$$

$$\begin{aligned} P_{9A} &= -144 \text{ W} \\ P_{VS} &= 48 \text{ W} \end{aligned}$$

2.9

$I_1 = 6 \text{ mA}$

2.16

$I_x = (5/3) \text{ mA}$

2.20

$V_{af} = -4 \text{ V}, \quad V_{ec} = -6 \text{ V}$

2.24

$V_{bd} = 6 \text{ V}$

2.30

$I_o = 6 \text{ mA}$

2.26

$I_L = 0.4 \text{ mA}$