ELEG 340: Solid-State Electronics, Fall 2008

Homework #3 - due Tuesday, 30 September 2008, at the beginning of class

1. Problem 3.2, p. 111 of Streetman-Banerjee, 6th edition.

2. Problem 3.3, p. 111 of Streetman-Banerjee, 6th edition. Hint: assume that all of the donors are ionized at 300 K, so that $n = N_D$. In fact, this may not be the case for the given value of $E_C - E_D = 0.2$ eV, which is relatively much larger than the thermal energy $k_B T$.

3. Problem 3.7(a) only, p. 112 of Streetman-Banerjee, 6th edition.

4. Problem 3.8, p. 112 of Streetman-Banerjee, 6th edition.

5. Problem 3.12(a) only, p. 112 of Streetman-Banerjee, 6th edition.

  Homework assignments will appear on the web at:
http://www.ece.udel.edu/~kolodzey/courses/eleg340f08.html

  Note: On each homework and report submission, please give your name, the due date, assignment number and the course number.