

**ELEG 667-010 - Advanced Nanostructure Devices – Fall 2006**  
**Homework #3 - due Friday, 6 October 2006, at 4:00 pm in Dept. office**

1. Problem 2.5 (a) only, in chapter 2, Lundstrom, p. 117 in 2nd edition. Hint: begin with Eq. (2.1) in text, and use potential  $U_{PZ}$  of Problem 2.4. Make use of equations (2.59d), (2.60), (2.71c) to determine  $K_\beta$  and  $A_\beta$ , producing the given matrix element. This problem will make you more familiar with notation.

2. Problem 2.6, in chapter 2, Lundstrom, p. 117 in 2nd edition. Hint: see example on p. 57

Homework assignments will appear on the web at:

<http://www.ece.udel.edu/~kolodzey/courses/eleg667f06.html>

Note: On each homework and report submission, please give your name, the due date, assignment number and the course number. For full credit - include units/dimensions for all numerical quantities