

## EECS170A: Electronics I

Grading criteria for Q3 in the midterm:

In part a), the question asked to draw the energy band diagram “QUALITATIVELY”, hence with the assumption that  $\delta N_D \ll N_{D0}$ , it is acceptable to draw the energy band as straight lines.

However, in part b) to e), the questions did not state to find answers “QUALITATIVELY”, hence the term “ $\delta N_D \sin(kx)$ ” in  $N_D(x)$  cannot be ignored in finding the answers. Therefore, in part b), c) and d), electric field, drift current density and diffusion current density do not equal to zero, respectively.