

UM-SJTU JI Summer 2020 VE 320 Quiz 3

Name:

Student ID:

1. What are the ways to increase the hole mobility in Si? Please list at least two.
2. For a p-type Si piece with a nonuniform doping concentration (higher concentration on the right, lower concentration on the left), please draw the energy band structure, and explain why there is a built-in electric field.
3. What are the two ways to generate excess carriers?