

## Ch. 6 Devices - Part 1 Video Questions

### Chapter 6 - Devices

#### A. Part 1

i. Metal-Metal Junctions – Question

What are the three names used for the difference in the Fermi levels (i.e.,  $\Delta E_f$ ) between two metals when the band diagrams of the two metals are shown in the Flatband condition?

ii. Image Potential (Force) – Question

What type of quantum mechanical potential barrier problem does the image potential resemble for the following conditions:  
When there is no applied bias ? When there is an applied bias?

iii. Seebeck Effect – Question

Which has a greater density of states at the Fermi energy level – a material with a positive Seebeck Coefficient or a negative Seebeck Coefficient?

iv. Metal-Semiconductor Junctions - Questions

For a metal-semiconductor junction in which the semiconductor is n-type and the work function of the metal is greater than the semiconductor, is the junction (contact) Schottky or Ohmic?