Arab Academy for Science & Technology and Maritime Transport – Cairo Branch
College of Engineering & technology
Electronics & Communication Engineering Department

Course: Electronics I **Course Code**: EC238
Lecturer: Dr. Amr Bayoumi
Tutors: Eng. Sherry Heshmat

Sheet (2)

Question (1)

Find the conductivity of a doped Si if:

a) $N_A = 10^{15}\ cm^{-3}$

b) $N_D = 10^{16}\ cm^{-3}$

Assume $\mu_p = 600$, $\mu_n = 1300$

Question (2)

If Si is doped with $N_A = 10^{16}\ cm^{-3}$ and $N_D = 5 * 10^{16}\ cm^{-3}$.

Find σ and δ

Question (3)

Draw : Si, B and P atoms

Question (4)

Find E at D1 and D2