



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



Course: Electronics I
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Course Code: EC238

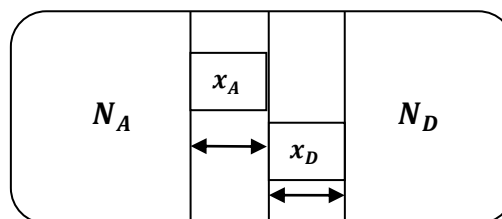
Sheet (3)

Question (1)

Assume that

- a) $N_A = 3 \times 10^{15} \text{ cm}^{-3}$
- b) $N_D = 10^{16} \text{ cm}^{-3}$

Find $x_D : x_A$



Question (2)

- a) Describe what is meant by Depletion region
- b) Built in electric field