

Unit-III

3. a) Explain the physical significance of chemical equilibrium and the law of mass action. Discuss the phenomena by taking an example. (12)
- b) What are the possible defects that could occur in an epitaxial growth. (4)

OR

3. a) Explain the process of Molecular Beam epitaxy in detail. Discuss the utility of khudcell with diagram. (10)
- b) Draw the hot wall reactor and cold wall reactor of LPCVD. (6)

Unit-IV

4. a) Define the term lithography and optical lithography. Explain the process of projection printing. (8)
- b) What are the types of photoresist and their chemical composition? Describe the growth system for DQ photo resist and ketone formation. (8)

OR

4. a) Explain the process of reaction Ion etching with suitable diagram. (10)
- b) Draw the flow chart of Mask generation. (6)

Unit-V

5. a) What are the fundamental consideration for IC processing? (8)
- b) Draw the processing steps of NMOS IC technology. (8)

OR

5. Write short note on : (2×8)
- a) LOCOS method
- b) Metallization and planarization



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8E8021

Roll No. _____

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B.Tech. VIII Semester (Main/Back) Examination, April/May -2017
Electronics and Communication Engg.
8EC1A IC Technology

Time : 3 Hours

Maximum Marks : 80
Min. Passing Marks : 26**Instructions to Candidates:**

Attempt any **five questions**, selecting **one question** from **each unit**. All questions carry **equal marks**. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitable by assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Unit-I

- a) List out the steps of EGS preparation with suitable diagrams. How will you recover HCL and trichlorosilane. (12)
- b) Discuss about getting treatments. (4)

OR

- a) Explain silicon shaping and wafer preparation. (8)
- b) Draw the czochralski growth reactor. (4)
- c) Discuss 4 point probe technique for resistivity measurement. (4)

Unit-II

- a) State and explain pick's first law and second law. (8)
- b) Draw and explain linear and parabolic rate co-efficient. (8)

OR

- a) Define the term diffusion. Explain Ion implantation system with suitable diagrams. (12)
- b) What are oxide properties? (4)