

Thapar Institute of Engineering and Technology, Patiala
ME- 1st year EC
End Semester Examination

Course Code: CN 003
Course name: Microelectronics Technology
Instructor: Ms. Paramjit Kaur

Time Allotted: 3 hours
Max Marks: 45
Date: 13.12.2006

Note: Question 1 is compulsory. Do any 3 Questions From Q-2 to Q-5. Answers should be to the point.

- Q1. Discuss (5*3=15)
- a. LPE
 - b. Doping and Autodoping
 - c. Thin Film Characteristics
 - d. MOCVD
 - e. LO-COS
- Q2 a. Describe the general classification of Integrated Circuits?
b. Mention the masking properties of SiO₂. (2*5=10)
- Q3. a. What is EGS and explain the multistep process to obtain EGS?
b. From Fick's First Law of diffusion, drive the Fick's Second Law? (2*5=10)
- Q4 a. The bulk resistivity of nichrome is 120 $\mu\Omega$ -cm. Calculate the thickness T in Angstroms of a film with sheet resistivity of 100 Ω per square.
b. Explain the fabrication steps of CMOS? (2*5=10)
- Q5 a. Why seed crystal is used for crystal growth? Explain.
b. What is Plasma Oxidation? (2*5=10)