

C 20273

Name .....

Reg. No. ....

**EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION  
JUNE 2006**

**EC 2K 803—MICROELECTRONIC TECHNOLOGY**

Time : Three Hours

Maximum : 100 Marks

*Answer all questions in part I. Each question carries 5 marks.*

*Answer one question from each of the parts II, III, IV and V.*

*Each question carries 15 marks.*

- I. 1 Explain preoxidation cleaning.  
2 What are the types of photoresists ? Which is mostly used ? Why ?  
3 How is junction isolation done ?  
4 When and where multilevel metallization used ?  
5 Write a note on early bipolar processes.  
6 What are the effects of hot carriers in BJT ?  
7 What are the design rules for pads in VLSI design ?  
8 How is MOSFET laid out in VLSI design ?

(8 × 5 = 40 marks)

- II. 1 What is optical lithography ? How is simulation of optical projection lithography done ?

Or

- 2 Describe (i) wet etching and (ii) ion etching.

- III. 1 How is simulation of LOCOS done ? Explain.

Or

- 2 Where is (i) Schottky contact used ? (ii) Implanted ohmic contact used ? Describe.

- IV. 1 Explain the *p* well process with neat sketches.

Or

- 2 Explain the sequence of BICMOS fabrication.

- V. 1 Describe the fundamentals of VLSI design.

Or

- 2 How is inverter layout carried out ? Explain with neat sketches.

(4 × 15 = 60 marks)