

27124

Name :

Reg. No.

EIGHTH SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION, MAY 2012

EC 04 801 - MICRO ELECTRONIC TECHNOLOGY
(2004 Admissions)



Time : Three Hours

Maximum: 100 Marks

(Answer all questions)

- I (a) What is a wafer? What does it contain?
(b) Name and explain briefly about various oxidation methods.
(c) How isolation between devices is accomplished?
(d) What are schottky contacts?
(e) Differentiate between p-well and n-well.
(f) What is meant by hot carrier effect?
(g) State the design rules for the n well.
(h) What for poly-2 is used in a CMOS process.

(8×5 = 40)

- II (a) Discuss about the following with reference to ion implantation:
(i) Ion Stopping
(ii) Range distribution
(iii) Channelling

(Or)

- (b) Explain in detail about optical Lithography.

- III (a) Write notes on:
(i) Junction and oxide isolation
(ii) Implanted ohmic contacts

(Or)

- (b) (i) List and explain the desired properties of metallization for Integrated circuits.
(ii) Discuss about trench isolation and refractory metal contact.

- IV (a) Draw the twin-tub CMOS structure at several stages of process and explain.

(Or)

- (b) Discuss about :
(i) Hot carrier effect in CMOS
(ii) Bi CMOS fabrication process sequence

- V (a) With the help of diagram explain about the various possible combinations of p select, n select, m well and active layers.

(Or)

- (b) List and explain the steps involved in rendering a schematic diagram into its physical layout for an INVERTER (CMOS)

(4×15 = 60)
