C 46693 (Pages : 2) Name.....

Reg. No.....

EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, JUNE 2008

EC 04 801—MICROELECTRONIC TECHNOLOGY

(2004 admissions)

Time : Three Hours Maximum :100 Marks

I. (a) Briefly explain about the projection printing.

(b) What is meant by Plasma etching ?Explain about the contrast curves.

(c) What is meant by Device Isolation ? Explain about the trench isolation.

(d) What is meant by contacts ? Explain about the trench isolation.

(e) What are the hot carrier effects in BJT.

(f) Briefly explain about the bipolar technologies.

(g) Briefly explain about the layout of NAND gates.

(h) Briefly explain about the layout Inverter.

(8 × 5 = 40 marks)

II. (a) Explain in detail about the vertical and lateral projected ranges. (15 marks)

Or

(b) Write short notes on :

(i) Modulation transfer function. (7 marks)

(ii) Stopping Power. (8 marks)

III. (a) Explain in detail about the refractory metal contact technology.

Or

(b) Discuss in detail about the multi-level metallization. (15 marks)

IV. (a) Discuss in detail about the BICMOS fabrication process sequence. (15 marks)

Or

(b) (i) Explain in detail about the CMOS technologies. (7 marks)

(ii) Explain about the P-well process. (8 marks)

Turn over

V. (a) Explain in detail about the layout of junction isolated BJT. (15 marks)

Or

(b) (i) Explain in detail about the layout design rule for well. (7 marks)

(ii) Explain in detail about the layout using cell hierarchy. (8 marks)

[4 × 15 = 60 marks]