Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐ Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ECE/ETE) (E-I 2011 Onwards) (Sem.–6)

MICRO ELECTRONICS

Subject Code : BTEC-902

M.Code : 71231

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answer briefly :

a. What is the difference between PATTERNING and deposition?

b. Write chemical reaction for growth of MGS.

c. Draw the construction diagram for monolithic avalanche diode.

d. Is it possible to fabricate inductors?

e. What do you mean by plasma etching?

f. Why silicon is preferred over germanium for fabrication of IC?

g. Write various defects in polycrystalline silicon.

h. What is the use of ficks one dimensional law?

i. Write the various materials used to form gates and Interconnection.

j. Write the various apparatus names in dry etching.

SECTION-B

2. Discuss in detail about atomic diffusion mechanism.

3. How can you etch away silicon, silicon dioxide, silicon nitride and aluminium?

4. What is the difference between raster scan and vector scan?

5. Which apparatus is used to convert poly crystal silicon into single crystal form?

6. Discuss in brief about MEMS.

SECTION-C

7. Discuss various CMOS fabrication techniques.

8. How zone refining process is different from silicon float zone process?

9. What do you mean by ion implantation? How it is different from diffusion?

NOTE : Disclosure of Identity by writing Mobile No. or making of passing request on any page of Answer sheet will lead to UMC against the Student.