MEVD–201

M. E./M. Tech. (Second Semester) EXAMINATION, Oct., 2009

VLSI TECHNOLOGY

(MEVD–201)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) Explain oxidation and diffusion process for I_C fabrication. 10

   (b) What are the purposes of oxidation ? Explain post-oxidation evaluation. 10

2. (a) Describe CVD and MOCVD. 10

   (b) Explain SOS and SOI. 10

3. (a) Discuss the ten step photomasking process with positive and negative resist. 10

   (b) Explain ion-implantation and X-ray lithography. 10

4. (a) Describe formation of doped region and junction by diffusion. 10

   (b) Discuss the process of preparation of electronic grade silicon from raw silicon. 10

5. (a) Describe plasma-enhanced CVD. 10

   (b) Explain drive in oxidation and kinetics of oxidation. 10

6. (a) Explain basics of photoresist chemistry and implant damage. 10

   (b) Explain the crystal growth, slicing and marking. 10

7. Explain any *two* of the following terms : 10 each

   (a) Diffusion process steps

   (b) Low pressure CVD

   (c) Deal Grove model