

Electronics & Communication Engineering Department
MTech First Year (VLSI Design & CAD)
VL002 IC Fabrication Technology (7th Dec, 2006)
End Semester Exam

22

Time: 180 min

Marks: 45

NOTE: 1. Attempt all questions in sequence.
2. Draw the figures wherever required.

1. (a) What are the effects of impurities on the oxidation rate? Discuss. (5)
(b) Explain how oxidation rate varies with the pressure. (4)

2. Enumerate the photolithographic process steps. (9)

3. (a) Write the characteristics of good photo resist. (2)
(b) Differentiate between negative and positive photo resist. (4)
(c) Compare the three basic reactor configurations. (3)

4. (a) Draw the schematic of an Electron Beam Lithographic system and show how the mask generation is done in it. What are the drawbacks of this system? (4+2)
(b) Enumerate the features of epitaxial layers. (3)

5. (a) Differentiate between the most common deposition methods.
Atmospheric Pressure chemical vapour deposition (APCVD), Low pressure chemical vapour deposition (LPCVD), and Plasma enhanced chemical vapour deposition (PECVD). (6)
(b) Write short note on Synchrotron Radiation. (3)