SUBMISSION DATE: 27TH AUGUST' 2012

INTEGRAL UNIVERSITY

GEC-103 MICROELECTRONICS TECHNOLOGY

M.TECH. ELECTRONIC CIRCUITS AND SYSTEMS - 1ST YEAR

ASSIGNMENT NO.1

Q1). What is Epitaxy? Explain any one method of Epitaxial Growth?

Q2). What is EGS? Explain the process of production of EGS from Trichlorosilane.

Q3). Explain the fabrication process of BJT, PMOS, NMOS, CMOS, BiCMOS? Explain twin tub method of fabrication of MOS ICs.

Q4). a). Explain the Deal and Grove's Model of the Kinetics of Silicon Oxidation.

b). Show that to grow an oxide layer of thickness x, a thickness of 0.44x of silicon is consumed.

Q5). a). Differentiate between CZ and FZ crystal growing techniques? Explain the CZ crystal grower?

b). What will be the concentration of oxygen in the crystal at a fraction solidified of 0.4, given the segregation coefficient of oxygen is 0.25.

Q6). a). Explain the various Silicon Shaping Processes.

b). Explain, what is Oxidation? Differentiate between Dry, HCl Dry and Wet Oxidation.