Department of Electronics & Telecommunication Engineering

Lecture Plan

Subject Code: EC 35010 **Subject Name: VLSI Design**

Session: July 24 – Dec 24 **Semester: A**

Lecture No.	Topic Covered	Remark
1.	Introduction to VLSI Design	
2.	VLSI Design flow & Moores Law	
3.	Semicustom & Full custom design style, Y-chart	
4.	Steps of physical design such as routing, placement	
5.	Steps of physical design such as floor planning, portioning	
6.	Basic steps involved in Fabrication of MOSFET	
7.	Fabrication of MOSFET	
8.	Fabrication of MOSFET (Contd.)	
9.	N-well process	
10.	Basics of Verilog programming	
11.	Overview of Verilog Programming styles	
12.	Introduction to Finite State Machines	
13.	Melay & Moore machine & Numerical	
14.	Melay & Moore machine & Numerical (contd.)	
15.	Review of MOSFET	
16.	MOS capacitance & MOS Models	
17.	Introduction to CMOS Inverter & its VTC	
18.	Static Characteristics of CMOS Inverter	
19.	Static Characteristics of CMOS Inverter (Contd.)	
20.	Dynamic Characteristics of CMOS Inverter	
21.	Dynamic Characteristics of CMOS Inverter (Contd.)	
22.	Power Dissipation in CMOS Inverter, Layout of inv.	
23.	Interconnects	
24.	Interconnects (Contd.)	
25.	Design of Combinational circuits	
26.	Design of Combinational circuits (contd.)	
27.	Design of Combinational circuits (contd.)	
28.	Design of Combinational circuits (contd.)	
29.	Sequential Circuit Design	
30.	Sequential Circuit Design (contd.)	
31.	Sequential Circuit Design (contd.)	
32.	Sequential Circuit Design (contd.)	
33.	Introduction to Semiconductor Memories	
34.	RAM cells	
35.	RAM cells (contd.)	
36.	Programming Logic Devices & their architecture	
37.	Programming Logic Devices & their architecture (contd.)	