G.H.RAISONI COLLEGE OF ENGINNERING, NAGPUR.
(an autonomous institute affiliated by RTMNU under UGC Act 1956)
DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINNERING

Teaching Plan

Course: CMOS VLSI DESIGN (BECL406)

Session : 2016-17

Program: B.E. Electronics & Telecommunication Engineering

VI SEMESTER Section A/B/C

Lecture no.	Unit	Topics to be Covered
1	I	Review of MOS devices
2		MOS transistor models
3		PMOS Transistor
4		NMOS Transistor
5		CMOS
6	II	CMOS Inverter- Basic electrical properties & ckt concepts
7		The NMOS inverter & transfer characteristics
8		The NMOS inverter & transfer characteristics
9		pull up & pull down ratios of NMOS
10		alternative forms of pull up the CMOS inverter
11		transfer characteristics CMOS inverter delays
12		transfer characteristics CMOS inverter delays
13	III	Study of CMOS logic- Combination logic
14		Logic gates
15		Compound gates
16		Multiplexers
17		Memory elements
18		Static logic circuits
19		Dynamic logic circuits
20		Domino & Zipper logic
21	IV	Circuit characterization and performance
22		resistance and capacitance estimation
23		resistance and capacitance estimation
24		switching characteristics
25		power dissipation
26		power dissipation
27	V	CMOS processing technology
28		CMOS processing technology
29		Basic CMOS technology
30		Layout design rules
31		Stick diagram representation
32		latch up
33		Layout Design of different logic gates
34	VI	CMOS circuit and logic design
35		Transistor sizing
36		Fan in, fan out
37		Physical design of simple logic gates
38		Physical design of simple logic gates
39		CMOS logic structures
40		Clocking strategies
41		Recent trends in CMOS VLSI Design

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Subject Teachers

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