

		<b>National Institute of Technology Meghalaya</b> An Institute of National Importance												<b>CURRICULUM</b>				
		Programme <b>Master of Technology in VLSI and Embedded Systems</b>						Year of Regulation <b>2018-19</b>										
Department <b>Electronics and Communication Engineering</b>								Semester <b>I</b>										
Course Code	Course Name	Credit Structure				Marks Distribution												
		L	T	P	C	Continuous Evaluation	VIVA	Total										
<b>EC 553</b>	<b>Digital VLSI Circuits Lab</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>70</b>	<b>30</b>	<b>100</b>										
Course Objectives	Develop capability to handle CADANCE EDA tool	Course Outcomes	CO1	Able to learn the CADANCE EDA tool														
	Understand basics of inverter designs and analysis		CO2	Able to realize the MOS operation regions														
	Design of combinational and sequential circuits		CO3	Able to design different CMOS circuits and sub systems														
No.	COs	Mapping with Program Outcomes (POs)												Mapping with PSOs				
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
1	CO1	3	3	0	1	0	0	0	0	2	0	0	0	3	0	0	3	
2	CO2	3	3	3	1	0	0	0	0	2	0	0	0	2	0	0	2	
3	CO3	2	3	3	1	2	0	0	0	0	0	0	0	2	3	3	2	
SYLLABUS																		
No.	Content													Hours	COs			
	1.DC characteristics of NMOS and PMOS 2.DC characteristics of CMOS inverter 3. Transient characteristics of CMOS inverter 4. Basic gates using different Logic design style(PTL,TG,CMOS) 5. Universal gates using different Logic design style(PTL,TG,CMOS)													24	CO1,CO2,CO3			
Total Hours													24					
<b>Essential Readings</b>																		
1. R. Jan, Chandrakasan, and A. Nikolic, Digital Integrated Circuits: A Design Perspective, Pearson Education 2nd edition 2016.																		
2. N. H.E Weste and K. Eshraghian, Principles of CMOS VLSI Design, Addition Wesley, 2nd edition 1993.																		
<b>Supplementary Readings</b>																		
1. S-M. Kang and Y. Leblebici, CMOS Digital Integrated Circuits: Analysis And Design, Tata McGraw-Hill, 3rd edition 2002.																		