

DIGITAL LOGIC DESIGN LAB

Course Code	19EE3452	Year	II	Semester	II
Course Category	Program Core	Branch	EEE	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisites	Nil
Continuous Internal Evaluation:	25	Semester End Evaluation:	50	Total Marks:	75

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Verify Truth tables of different Logic Gates, Simplify & Implement Boolean Functions in Standard forms.
CO2	Realize & Implement different Combinational circuits.
CO3	Verify stable tables of different Flipflops.
CO4	Design & Verify counters using different Flipflops.

Mapping of course outcomes with Program outcomes (CO/ PO/PSO Matrix)														
Note: 1- Weak correlation 2-Medium correlation 3-Strong correlation														
* - Average value indicates course correlation strength with mapped PO														
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	2							1	2	1
CO2	3	3	2	2	2							1	2	1
CO3	3	3	2	2	2							1	2	1
CO4	3	3	2	2	3							1	2	1

Syllabus		
Expt. No.	Contents	Mapped CO
1	Verification of Truth Tables of Logic gates and implementation of Basic gates using Universal Gates.	CO1
2	Implementation of the given Boolean functions using logic gates in both SOP and POS form.	CO1
3	Simplification of the given Boolean function using K-map and implement using logic gates.	CO1
4	Realization and verification of Full adder and Full Subtractor using logic gates.	CO2
5	Implementation of the given function using decoder and logic gates	CO2
6	Implementation of the given function using decoder and logic gates.	CO2

7	Verification of State Tables of SR, D, JK and T-Flip-Flops	CO3
8	Design and Verify the operation of 4-bit Synchronous Counter using T flip-flops.	CO4
9	Design and Verify the operation of 4-bit and Mod-N Ripple Counters using JK flip-flops	CO4
10	Mini Project	CO4

Learning Resources	
Text Books	
1. Michael D. Ciletti, M. Morris Mano, Digital Design, 4/e. Pearson Education, 2007.	
Reference Books	
1. ZviKohavi, Switching and Finite Automata Theory, 2/e, Tata McGraw-Hill Education, 2008.	
2. John F. Wakerly, Digital Design Principles and Practices, 4/e, Pearson Education, 2008.	
3. Frederick J. Hill and Gerald R. Peterson, Introduction to Switching Theory and Logic Design, 3/e, John Willey and Sons, 1981.	
4. Charles Roth, Jr., Larry Kinney, Fundamentals of Logic Design, 7/e, Cengage Learning, India, 2013.	
e- Resources & other digital material	
1. http://www.ece.ubc.ca/~saifz/ece256.html	
2. http://nptel.iitm.ac.in/courses/Webcourse-contents/IIT%20Guwahati/digital_circuit/frame/index.html	
