

Syllabus		
Unit No	Contents	Mapped CO
I	Digital Systems and Binary Numbers: Decimal, Octal, Hexadecimal number systems, Conversions, Complements, Binary codes, Arithmetic with signed and unsigned numbers (addition, subtraction), Logic Gates.	CO1
II	Boolean Algebra: Introduction, Axioms and Laws of Boolean Algebra, Boolean functions, Minterms (SOP) and Maxterms (POS), Canonical and Standard Forms Gate-Level Minimization: Introduction, Two, Three, Four Variable K-map's, Don't Care Conditions, NAND and NOR implementation.	CO2
III	Combinational Logic: Introduction to combinational logic circuits, Binary adder and subtractor, Look Ahead Carry Adder, Decoders, Encoders, Multiplexers, Demultiplexers.	CO3
IV	Sequential Logic: Introduction to sequential circuits, Latch-Flip Flop-SR, JK, T, D Flip Flops-Flip Flop excitation tables.	CO4
V	Registers and Counters: Registers, Shift registers, Synchronous and Asynchronous (ripple) counters, BCD counter (synchronous and asynchronous), Ring counter, Johnson counter.	CO5

Learning Recourses
Text Books
1. Digital Design, M. Morris Mano, Michael D.Ciletti, Fifth Edition, 2013, Pearson.
References
1. Switching Theory and Finite Automata, Zvi. Kohavi, Niraj K. Jha, Third Edition, 2010, Cambridge, University Press.
2. Fundamentals of Digital circuits, A. Anand Kumar, Third Edition, 2013, PHI.
e-Resources & other digital material
1. https://nptel.ac.in/courses/106/108/106108099/ http://nptel.ac.in/courses/117106086/1
2. https://nptel.ac.in/courses/117/105/117105080/
3. https://www.udemy.com/course/digital-electronics-logic-design/
4. https://learnabout-electronics.org/Digital/dig20.php
5. https://www.tutorialspoint.com/digital_circuits/digital_circuits_logic_gates.htm
6. https://www.geeksforgeeks.org/digital-electronics-logic-design-tutorials/