

PRACTICAL I: DIGITAL LAB

Credits : 4

Hours : 60

Objective: To impart the practical knowledge of Logic Gates, Boolean Algebra and construction of the Combinational and Sequential circuits.

I: Study of logic gates

1. Verification of truth table for AND, OR, NOT, NAND, NOR and XOR gates.
2. Realization of NOT, AND, OR, EX-OR gates with only NAND gates.
3. Realization of NOT, AND, OR, EX-OR gates with only NOR gates.

II: Implementation of logic circuits

1. Verification of Associative law for AND, OR gates.
2. Karnaugh's Map reduction and logic circuit implementation.
3. Verification of Demorgan's Law.

III: Adder and subtractor

1. Implementation of Half-Adder and Half-Subtractor.
2. Implementation of Full-Adder and Full Subtractor.
3. Four bit binary Adder/Subtractor.

IV: Shift registers

1. Implementation of Shift Registers-Serial Transfer.
2. Ring Counter.
3. 4 – bit binary counter.
4. BCD counter.