

DIGITAL ELECTRONICS - I:

UNIT - I :

Number System and Data Representation

Number System : Binary, Octal, Decimal and Hexadecimal number system and their interconversion.

Binary Codes : BCD, Excess3 , Parity, Gray, ASCII, EBCDIC codes and their advantages and disadvantages.

UNIT - II:

Binary Arithmetic

Data Representation: Positive, negative, maximum and minimum number representation (related to 8 bit number), real number representation, underflow, overflow, range and accuracy. Binary Arithmetic: Binary addition, binary subtraction using 1's and 2's compliment.

UNIT - III:

Logic gates: Truth table, properties and symbolic representation of NOT, AND, OR, NOR, NAND, EXOR, EXNOR gates. NOR and NAND gates as a universal gates.

UNIT - IV:

Boolean Algebra.

Laws and Identities of Boolean algebra, DeMorgan's Theorem , use of Boolean Algebra for simplification of logic expression, K-Map for 2,3,4 variables, simplification of SOP and POS logic expression using K-Map.