Lesson Plan

Course: B.Sc II Sem Electronics

Paper: II - Digital Electronics-**I**

Teacher name: Mr. SK Bathla

April 2021

|  |
| --- |
| **Number Systems:**- Binary, Octal, Hexadecimal number system and base conversions, Binary Arithmetic operations , 1’s and 2’s complement representation and their arithmetic, Binary codes-BCD, Grey, cyclic, ASCII, EBCDIC, Parity Bit Code, BCD arithmetic.  **Logic Gates and Boolean Algebra:-**Logic Level: Positive and Negative logic level, Logic Gates: AND, OR, NOT, XOR, XNOR, NOR, NAND (Definition, Symbols& Truth table). |

May 2021

|  |
| --- |
| Boolean Algebra: Postulates, Duality Principal , De Morgan’s Law, Simplification of Boolean Identities , Standard SOP & POS Forms, Simplification using K-map(upto 4 variables), don’t care condition, implementation of SOP & POS form using NAND and NOR Gate.  **Logic families: -** Unipolar & Bipolar Logic families, characteristics of Digital IC’s (fan in, fan out, propagation delay. Noise Margin, level of Gating), |

June 2021

|  |
| --- |
| RTL (NOR), DTL (NAND),TTL (NAND), CMOS Logic gate (NAND, NOR).  **Combinational Circuit:-**Design principle of combinational circuit: Half adder, full adder, half sub tractor, full subtractor, parallel binary adder, BCD (8421)adder, |

July 2021

|  |
| --- |
| 2’S complement adder/ subtractor, Digital Comparator (1 bit and 2 bit ), Application of combinational circuit: railway track switching system , common light switching for a group of flats, Parity Generator. |