

## Lesson Plan

**Name of the Faculty** : **Ms Poonam Verma**  
**Discipline** : **Electronics and Communication Engg.**  
**Semester** : **3rd**  
**Subject** : **Digital Eltx**  
**Lesson Plan Duration** : **Aug-December 2025**  
**Work Load (Lecture/ Practical) per week (in hours): 03 HOURS (Lecture)04 Hours per Group (PRACTICAL)**

|         |             |                                                                    |                                                                        |
|---------|-------------|--------------------------------------------------------------------|------------------------------------------------------------------------|
| 1 week  | 1st lecture | Define Digital & Analog Signals & Their difference                 | Study of operation of AND ,OR,NOT Gates                                |
|         | 2nd lecture | Decimal,Binay,Octal & Hexa Number Systems                          |                                                                        |
|         | 3rd lecture | Conversion of number systems                                       |                                                                        |
| 2 week  | 1st lecture | Binary addition,Subtraction,Multiplication                         | Study of operation of EX-NOR,EX-OR,NOR                                 |
|         | 2nd lecture | 1 & 2's Complement,BCD Codes & Addition of BCD coded numbers       |                                                                        |
|         | 3rd lecture | Excess -Code ,Gray Code,binary to gray & gray to binary conversion |                                                                        |
| 3 week  | 1st lecture | Concept of Parity ,Single & Double Parity ,Error detection         | Verification of NAND & NOR gates as universal gates                    |
|         | 2nd lecture | Logic Gates,Positive & Negative Logic                              |                                                                        |
|         | 3rd lecture | NOT,OR,AND,NAND gates                                              |                                                                        |
| 4 week  | 1st lecture | NOR,EX-OR,EX_NOR Gates                                             | Full adder using EX-NOR & NAND gate                                    |
|         | 2nd lecture | NAND & NOR Universal Gates                                         |                                                                        |
|         | 3rd lecture | Rules & Laws of Boolean Algebra                                    |                                                                        |
| 5 week  | 1st lecture | De-Morgans Theorem                                                 |                                                                        |
|         | 2nd lecture | K-MAP technique 2 & 3 variables                                    |                                                                        |
|         | 3rd lecture | K-MAP technique 4 variables                                        |                                                                        |
| 6 week  | 1st lecture | Half Adder & Full Adder                                            | Verify operation of Multiplexer                                        |
|         | 2nd lecture | Binary Adder 2 bit & 4 bit                                         |                                                                        |
|         | 3rd lecture | Multiplexer 4:1 & 8:1                                              |                                                                        |
| 7 week  | 1st lecture | De Multiplexer 4:1 & 8:1                                           | Verify operation of DE-Multiplexer                                     |
|         | 2nd lecture | Basic Binary Decoder 4-line & 8 Line                               |                                                                        |
|         | 3rd lecture | BCD to Decimal Decoder                                             |                                                                        |
| 8 week  | 1st lecture | BCD to 7 segment decoder                                           | Verify operation of BCD to Decimal Decoder                             |
|         | 2nd lecture | Encoder,decimal to BCD encoder                                     |                                                                        |
|         | 3rd lecture | decimal to BCD priority encoder                                    |                                                                        |
| 9 week  | 1st lecture | Latch ,SR ,D-Latch                                                 |                                                                        |
|         | 2nd lecture | Flip-Flop SR & JK                                                  |                                                                        |
|         | 3rd lecture | Diffrence in Latch & FF                                            |                                                                        |
| 10 week | 1st lecture | Race Around Condition                                              | Verify operation of SR ,D, & JK FF                                     |
|         | 2nd lecture | J-K Master Slave FF                                                |                                                                        |
|         | 3rd lecture | Asynchronous counters 4-bit                                        |                                                                        |
| 11 week | 1st lecture | Deacde counter                                                     |                                                                        |
|         | 2nd lecture | Synchronous counter 4-bit                                          |                                                                        |
|         | 3rd lecture | Up /Downm Asynchronous Counter                                     |                                                                        |
| 12 week | 1st lecture | Ring counter                                                       | Study of Ring counter and async counter                                |
|         | 2nd lecture | Shift Register SISO                                                |                                                                        |
|         | 3rd lecture | SIPO & PIPO                                                        |                                                                        |
| 13 week | 1st lecture | Binary Resistor Network & Ladder Network Method                    | Verify Operation of D/A Converter<br>Verify Operation of A/D Converter |
|         | 2nd lecture | Single slope & Dual Slope convereter                               |                                                                        |
|         | 3rd lecture | Successive Approximation & Parallel A/D                            |                                                                        |
| 14 week | 1st lecture | Memory Organisation & Classification                               | Verify operation of 74181 ALU IC                                       |
|         | 2nd lecture | ROM ,PROM & DROM                                                   |                                                                        |
|         | 3rd lecture | EPROM & EEPROM                                                     |                                                                        |