

## Department Of Computer Engineering & IoT

### LESSON PLAN

|                                                                                   |      |                                                   |                                                                                                                                                                   |
|-----------------------------------------------------------------------------------|------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DISCIPLINE: COMPUTER SCIENCE AND IOT                                              |      | SEMESTER<br>3RD                                   | NAME OF THE TEACHING FACULTY<br>ABINAS PARIDA                                                                                                                     |
| SUBJECT:<br>DIGITAL ELECTRONICS AND<br>COMPUTER ORGANISATION<br>SUBJECT CODE:TH 4 |      | NO. OF DAYS<br>/WEEK CLASS<br>ALLOTTED<br>03/WEEK | SEMESTER FROM DATE : 15/7/26 to 5/11/26<br>NO. OF WEEKS:15                                                                                                        |
| MONTH                                                                             | WEEK | NO. OF<br>PERIOD<br>AVAILABLE                     | THEORY TOPICS TO BE COVERED                                                                                                                                       |
| JULY                                                                              | 1    | 03                                                | UNIT 1<br>Introduction to Digital electronics,difference between analog and digital signals,number system introduction.                                           |
|                                                                                   | 2    | 03                                                | Binary,Octal,Decimal and Hexadecimal ,conversion between number system,binary arithmetic Boolean algebra introduction                                             |
| AUGUST                                                                            | 1    | 03                                                | Basic operations,laws and simplification<br>UNIT 2                                                                                                                |
|                                                                                   | 2    | 03                                                | AND,OR,NOT,NAND,NOR,XOR,XNOR,                                                                                                                                     |
|                                                                                   | 3    | 03                                                | Design and simplification of logic circuits using Boolean algebra                                                                                                 |
|                                                                                   | 4    | 03                                                | Karnaugh Maps for simplification practical application of logic Gates in real world circuits.                                                                     |
| SEPTEMBER                                                                         | 1    | 03                                                | UNIT 3<br>Combinational circuits,multiplexer,demultiplexer,encoder                                                                                                |
|                                                                                   | 2    | 03                                                | Decoder,sequential circuit,flip-flop,SR,JK,D,T                                                                                                                    |
|                                                                                   | 3    | 03                                                | Counter,synchronous and asynchronous counters registers                                                                                                           |
|                                                                                   | 4    | 03                                                | Shift register:Types and Uses<br>UNIT 4<br>Fundamentals of computer organization,basic structure of a computer,CPU,memory,input output devices                    |
| OCTOBER                                                                           | 1    | 03                                                | Instruction cycle:fetch,decode,execute memory organization:Type of memory( RAM,ROM,CACHE,VIRTUAL MEMORY)                                                          |
|                                                                                   | 2    | 03                                                | Introduction to buses:address bus,data bus and control bus.<br>UNIT 5<br>Processor architecture and control unit,basics of arithmetic logic unit and control unit |
|                                                                                   | 3    | 03                                                | RISC vs CISC pipelining concept and hazard                                                                                                                        |
|                                                                                   | 4    | 03                                                | Performance optimization in processors.<br>UNIT 6<br>IO devices and interfaces:keyboard,mouse,printer                                                             |
| NOVEMBER                                                                          | 1    | 02                                                | Storage devices interrupts and DMA.<br>Overview of modern trends:multi processor,GPU,embedded system.                                                             |
|                                                                                   |      |                                                   | Design a simple digital circuit or simulate a basic cpu operation.                                                                                                |

*Abinas Parida*

*Saxmilen Belura*  
( I/c HOD Comp. Engg. & IOT )