

| <b>DISCIPLIN E – ELECTRIC AL ENGG</b> | <b>SEMESTE R 5TH</b>                       | <b>NAME OF THE TEACHING FACULTY- NIHARIKA SETHY, LECT(ETC.)</b>                             |               |
|---------------------------------------|--|---|---------------|
| <b>SUB- DE&amp;MP</b>                 | <b>No Of Days Per Week Class Alloted-5</b> | <b>SEMESTER FROM 01.08.2023 TO 30.11.2023<br/>NO OF WEEK – 13 WEEKS</b>                     |               |
| <b>WEEK</b>                           | <b>CLASS DAY</b>                           | <b>THEORY</b>   | <b>STATUS</b> |
| 1 <sup>ST</sup> WEEK                  | 1ST  | Binary,Octal,Hexadecimal number systems and   |               |
|                                       | 2ND  | Compare with Decimal system.  |               |
|                                       | 3RD  | Binary addition, subtraction, Multiplication and Division                                   |               |
|                                       | 4TH  | 1'scomplementand2'scomplementnumbersforabinarynumber  |               |
|                                       | 5TH  | Subtraction of binary numbers in 2's complement method                                      |               |
| 2 <sup>nd</sup> WEEK                  | 1ST  | Use of weighted and Un-weighted & codes   |               |
|                                       | 2ND  | Write Binary equivalent number for a, number in 8421 Excess-3 and Gray Code and vice-versa. |               |
|                                       | 3RD  | Importance of parity Bit  |               |
|                                       | 4TH  | Logic Gates: AND,OR, NOT with truth table   |               |
|                                       | 5TH  | NAND, NOR and EX-OR gates with truth table  |               |
| 3 <sup>RD</sup> WEEK                  | 1ST  | Realize AND, OR ,NOT operations using NAND ,NOR gates.                                      |               |
|                                       | 2ND  | Different postulates and De-Morgan's theorems   |               |
|                                       | 3RD  | Boolean algebra   |               |
|                                       | 4TH  | Use Of Boolean Algebra For Simplification Of Logic Expression                               |               |
|                                       | 5TH  | Use Of Boolean Algebra For Simplification Of Logic Expression                               |               |
| 4 <sup>TH</sup> WEEK                  | 1ST  | POS Logic Expression and SOP Logic Expression   |               |
|                                       | 2ND  | Karnaugh Map For 2 variable   |               |
|                                       | 3RD  | Karnaugh Map For 2,3,4 Variable,  |               |
|                                       | 4TH  | Simplification Of SOP And POS   |               |
|                                       | 5TH  | Logic Expression Using K-Map  |               |
| 5 <sup>TH</sup> WEEK                  | 1ST  | Give the concept of combinational logic circuits  |               |
|                                       | 2ND  | Half adder circuit and verify its functionality using truth table                           |               |
|                                       | 3RD  | Realize a Half-adder using NAND gates only and NOR gates only.                              |               |
|                                       | 4TH  | Full adder circuit and explain its operation with truth table                               |               |
|                                       | 5TH  | IA EXAM   |               |
| 6 <sup>TH</sup> WEEK                  | 1ST  | Realize full-adder using two Half-adders and an OR–gate and write truth table               |               |
|                                       | 2ND  | Give the idea of Sequential logic circuits.   |               |
|                                       | 3RD  | State the necessity of clock and give the concept of level                                  |               |
|                                       | 4TH  | clocking and edge triggering  |               |

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|                       | 5TH | Clocked SR-flip flop with preset and clear inputs                                     |  |
| 7 <sup>TH</sup> WEEK  | 1ST | Construct level clocked JK flip flop using S-R flip-flop and explain with truth table |  |
|                       | 2ND | JK flip flop using S-R flip-flop  |  |
|                       | 3RD | Concept of race around condition and study of master slave                            |  |
|                       | 4TH | JK flip flop  |  |
|                       | 5TH | Class Test  |  |
| 8 <sup>TH</sup> WEEK  | 1ST | Give the truth table so edge triggered  |  |
|                       | 2ND | D and T flip flops and draw their symbols   |  |
|                       | 3RD | Application so flip flops.  |  |
|                       | 4TH | Introduction of counter. Define modulus of a counter                                  |  |
|                       | 5TH | 4-bit asynchronous counter and its timing diagram                                     |  |
| 9 <sup>TH</sup> WEEK  | 1ST | Asynchronous decade counter,  |  |
|                       | 2ND | 4-bit synchronous counter   |  |
|                       | 3RD | Distinguish between synchronous and asynchronous counters                             |  |
|                       | 4TH | State the need for a Register and list the four types of registers.                   |  |
|                       | 5TH | Working of SISO, SIPO, PISO, PIPO Register with truth table using flip flop.          |  |
| 10 <sup>TH</sup> WEEK | 1ST | Introduction to Microprocessors, Microcomputers                                       |  |
|                       | 2ND | Architecture of Intel 8085 A Microprocessor and description of each block             |  |
|                       | 3RD | Architecture of Intel 8085 A Microprocessor and description of each block             |  |
|                       | 4TH | Pin diagram and description of 8085   |  |
|                       | 5TH | Pin diagram and description of 8085   |  |
| 11 <sup>TH</sup> WEEK | 1ST | Pin diagram and description of 8085A  |  |
|                       | 2ND | Stack ,Stack pointer & stack top Interrupts   |  |
|                       | 3RD | Opcode &Operand   |  |
|                       | 4TH | Differentiate between one byte, two byte &  |  |
|                       | 5TH | Three byte instruction with   |  |
| 12 <sup>TH</sup> WEEK | 1ST | Differentiate between one byte ,two byte & three byte instruction with                |  |
|                       | 2ND | Instruction set of 8085 example   |  |
|                       | 3RD | Instruction set of 8085 example   |  |
|                       | 4TH | Addressing mode   |  |
|                       | 5TH | Timing Diagram  |  |
| 13 <sup>TH</sup> WEEK | 1ST | Fetch Cycle, Machine Cycle, Instruction Cycle, T-State                                |  |
|                       | 2ND | Timing Diagram for memory read ,memory write ,I/O read, I/O write.                    |  |
|                       | 3RD | Timing Diagram for 8085 instruction Counter and time delay                            |  |
|                       | 4TH | Simple assembly language programming of 8085  |  |
|                       | 5TH | Simple assembly language programming of 8085  |  |

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| 14 <sup>TH</sup> WEEK | 1ST | Basic Interfacing Concepts ,Memory mapping & I/O mapping  |  |
|                       | 2ND | Functional block diagram and description of each block of |  |
|                       | 3RD | Programmable peripheral interface Intel 8255,             |  |
|                       | 4TH | Application using 8255:                                   |  |
|                       | 5TH | Seven segment LED display                                 |  |
| 15 <sup>TH</sup> WEEK | 1ST | Square wave generator                                     |  |
|                       | 2ND | Traffic light Controller                                  |  |
|                       | 3RD | Doubt clearing class                                      |  |
|                       | 4TH | Doubt clearing class                                      |  |
|                       | 5TH | Semester question discussion                              |  |