Lesson Plan			
	Discipline:Electrical Engineering	**Semester-5th Winter 2023**	**Name of the Teachng Faculty: Sri Nigam Prasad Mohapatra**
Sl. No.	**Subject-DIGITAL ELECTRONICS & MICROPROCESSOR**	**No. Of Days/Week class alloted:05**	**Semester From date: 07/08/2023 To date: 30/11/2023. No of weeks: 16**
	Weeks/Months	**Class Day**	**Topic**
1	1st Week	1st(7.08.2023)	1.1 Binary, Octal, Hexadecimal number systems and compare with Decimal system.
		2nd(7.08.2023)	1.2 Binary addition, subtraction, Multiplication and Division.
		3rd(9.08.2023)	1.3 1's complement and 2's complement numbers for a binary number
		4th(11.08.2023)	1.4Subtraction of binary numbers in 2's complement method
		5th(11.08.2023)	1.5 Use of weighted and Un-weighted codes & write Binary equivalent number for a number in 8421, Excess-3 and Gray Code and vice-versa.
2	2nd Week	1st(14.08.2023)	1.5 Use of weighted and Un-weighted codes & write Binary equivalent number for a number in 8421, Excess-3 and Gray Code and vice-versa.
		2nd(14.08.2023)	1.6 Importance of parity Bit.
		3rd(16.08.2023)	1.7 Logic Gates: AND, OR, NOT, NAND, NOR and EX-OR gates with truth table.
		4th(18.08.2023)	1.8 Realize AND, OR, NOT operations using NAND, NOR gates.
		5th(18.08.2023)	1.9 Different postulates and De-Morgan's theorems in Boolean algebra.
3	3rd Week	1st(21.08.2023)	1.10 Use Of Boolean Algebra For Simplification Of Logic Expression
		2nd(21.08.2023)	1.10 Use Of Boolean Algebra For Simplification Of Logic Expression
		3rd(23.08.2023)	1.11 Karnaugh Map For 2,3,4 Variable, Simplification Of SOP And POS Logic Expression Using K-Map.
		4th(25.08.2023)	1.11 Karnaugh Map For 2,3,4 Variable, Simplification Of SOP And POS Logic Expression Using K-Map.
		5th(25.08.2023)	1.11 Karnaugh Map For 2,3,4 Variable, Simplification Of SOP And POS Logic Expression Using K-Map.
4	4th Week	1st(28.08.2023)	2.1 Give the concept of combinational logic circuits.
		2nd(28.08.2023)	2.2Half adder circuit and verify its functionality using truth table.
		3rd(1.09.2023)	2.2Half adder circuit and verify its functionality using truth table.
		4th(1.09.2023)	2.3Realize a Half-adder using NAND gates only and NOR gates only.
5	5th Week	1st(4.09.2023)	2.4 Full adder circuit and explain its operation with truth table.
		2nd(4.09.2023)	2.4 Full adder circuit and explain its operation with truth table.
		3rd(8.09.2023)	2.5 Realize full-adder using two Half-adders and an OR – gate and write truth table
		4th(8.09.2023)	2.5 Realize full-adder using two Half-adders and an OR – gate and write truth table

6	6th Week	1st(11.09.2023)	2.6 Full subtractor circuit and explain its operation with truth table.
		2nd(11.09.2023)	2.6 Full subtractor circuit and explain its operation with truth table.
		3rd(13.09.2023)	2.7 Operation of 4 X 1 Multiplexers and 1 X 4 demultiplexer
		4th(15.09.2023)	2.7 Operation of 4 X 1 Multiplexers and 1 X 4 demultiplexer
		5th(15.09.2023)	2.8 Working of Binary-Decimal Encoder & 3 X 8 Decoder.
7	7th Week	1st(18.09.2023)	2.8 Working of Binary-Decimal Encoder & 3 X 8 Decoder.
		2nd(18.09.2023)	2.9 Working of Two bit magnitude comparator.
		3rd(22.09.2023)	3.1 Give the idea of Sequential logic circuits.
		4th(22.09.2023)	3.2 State the necessity of clock and give the concept of level clocking and edge triggering,
8	8th Week	1st(25.09.2023)	3.3Clocked SR flip flop with preset and clear inputs.
		2nd(25.09.2023)	3.4 Construct level clocked JK flip flop using S-R flip-flop and explain with truth table
		3rd(27.09.2023)	3.5 Concept of race around condition and study of master slave JK flip flop.
9	9th Week	1st(4.10.2023)	3.6 Give the truth tables of edge triggered D and T flip flops and draw their symbols.
		2nd(6.10.2023)	3.7 Give the truth tables of edge triggered D and T flip flops and draw their symbols
		3rd(6.10.2023)	3.8 Applications of flip flops.
10	10th Week	1st(9.10.2023)	3.9 Define modulus of a counter
		2nd(9.10.2023)	3.10 4-bit asynchronous counter and its timing diagram.
		3rd(11.10.2023)	3.11 Asynchronous decade counter.
		4th(13.10.2023)	3.12 4-bit synchronous counter.
		5th(13.10.2023)	3.13 Distinguish between synchronous and asynchronous counters.
11	11th Week	1st(16.10.2023)	3.14 State the need for a Register and list the four types of registers.
		2nd(16.10.2023)	3.15 Working of SISO, SIPO, PISO, PIPO Register with truth table using flip flop.
		3rd(18.10.2023)	4.1 Introduction to Microprocessors, Microcomputers
		4th(20.10.2023)	4.2 Architecture of Intel 8085A Microprocessor and description of each block.
		5th(20.10.2023)	4.2 Architecture of Intel 8085A Microprocessor and description of each block.
12	12th Week	1st(30.10.2023)	4.3 Pin diagram and description.
		2nd(30.10.2023)	4.4 Stack, Stack pointer & stack top
		3rd(1.11.2023)	4.5 Interrupts
		4th(3.11.2023)	4.6 Opcode & Operand,

		5th(3.11.2023)	4.7 Differentiate between one byte, two byte & three byte instruction with example.
13	13th Week	1st(6.11.2023)	4.7 Differentiate between one byte, two byte & three byte instruction with example.
		2nd(6.11.2023)	4.8 Instruction set of 8085 example
		3rd(8.11.2023)	4.8 Instruction set of 8085 example
		4th(10.11.2023)	4.9 Addressing mode
		5th(10.11.2023)	4.9 Addressing mode
14	14th Week	1st(13.11.2023)	4.11 Timing Diagram for memory read, memory write, I/O read, I/O write
		2nd(13.11.2023)	4.11 Timing Diagram for memory read, memory write, I/O read, I/O write
		3rd(15.11.2023)	4.12 Timing Diagram for 8085 instruction
		4th(17.11.2023)	4.12 Timing Diagram for 8085 instruction
		5th(17.11.2023)	4.13 Counter and time delay.
15	15th Week	1st(20.11.2023)	4. 14 Simple assembly language programming of 8085.
		2nd(20.11.2023)	4. 14 Simple assembly language programming of 8085.
		3rd(22.11.2023)	5.1 Basic Interfacing Concepts, Memory mapping & I/O mapping
		4th(24.11.2023)	5.1 Basic Interfacing Concepts, Memory mapping & I/O mapping
		5th(24.11.2023)	5.2 Functional block diagram and description of each block of Programmable peripheral interface Intel 8255 ,
16	16th Week	1st(29.11.2023)	5.3 Application using 8255: Seven segment LED display, Square wave generator, Traffic light Controller