LESSON PLAN (Winter-2022)

Discipline: Electrical	Semester: 5th	Name of the Teaching Faculty: Amit Kumar Nayak
Subject: DE& MP (TH-3)	No of Days /per week class allotted: 5	Semester From date: 15.09.2022 To 22.12.2022 No of Weeks:14
Week	Class Day	Theory Topics
1st	1st	**1 Basics Of Digital Electronics (15)** 1.1 Binary, Octal, Hexadecimal number systems and compare with Decimal system.
	2nd	1.2 Binary addition, subtraction, Multiplication and Division.
	3rd	1.3 1's complement and 2's complement numbers for a binary number
	4th	1.4 Subtraction of binary numbers in 2's complement method.
	5th	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	1st	1.6 Importance of parity Bit.
	2nd	1.7 Logic Gates: AND, OR, NOT, NAND, NOR and EX-OR gates with truth table.
	3rd	1.8 Realize AND, OR, NOT operations using NAND, NOR gates.
	4th	**Continue**
	5th	1.9 Different postulates and De-Morgan's theorems in Boolean algebra.
3rd		**PUJA HOLIDAYS**
4th	1st	1.10 Use Of Boolean Algebra For Simplification Of Logic Expression
	2nd	1.11 Karnaugh Map For 2,3,4 Variable, Simplification Of SOP And POS Logic Expression Using K-Map
	3rd	**Continue**
	4th	**2. Combinational Logic Circuits (15)** 2.1 Give the concept of combinational logic circuits.
	5th	2.2 Half adder circuit and verify its functionality using truth table.
5th	1st	2.3 Realize a Half-adder using NAND gates only and NOR gates only.
	2nd	2.4 Full adder circuit and explain its operation with truth table.
	3rd	2.5 Realize full-adder using two Half-adders and an OR – gate and write truth table
	4th	**Continue**
	5th	2.6 Full subtractor circuit and explain its operation with truth table.
6th	1st	**Continue**
	2nd	2.7 Operation of 4 X 1 Multiplexers and 1 X 4 demultiplexer
	3rd	**Continue**
	4th	2.8 Working of Binary-Decimal Encoder & 3 X 8 Decoder.
	5th	**Continue**
7th	1st	2.9 Working of Two bit magnitude comparator.
	2nd	**Continue**
	3rd	**3. Sequential Logic Circuits (15)** 3.1 Give the idea of Sequential logic circuits.
	4th	3.2 State the necessity of clock and give the concept of level clocking and edge triggering,
	5th	3.3 Clocked SR flip flop with preset and clear inputs.
8th	1st	3.5 Construct level clocked JK flip flop using S-R flip-flop and explain with truth table
	2nd	3.6 Concept of race around condition and study of master slave JK flip flop.
	3rd	3.7 Give the truth tables of edge triggered D and T flip flops and draw their symbols.
	4th	3.8 Applications of flip flops.

	5th	3.9 Define modulus of a counter
9th	1st	3.10 4-bit asynchronous counter and its timing diagram.
	2nd	3.11 Asynchronous decade counter.
	3rd	3.12 4-bit synchronous counter.
	4th	3.13 Distinguish between synchronous and asynchronous counters.
	5th	3.14 State the need for a Register and list the four types of registers.
10th	1st	3.15 Working of SISO, SIPO, PISO, PIPO Register with truth table using flip flop.
	2nd	**4. 8085 Microprocessor(20)** 4.1 Introduction to Microprocessors, Microcomputers
	3rd	4.2 Architecture of Intel 8085A Microprocessor and description of each block.
	4th	**Continue**
	5th	4.3 Pin diagram and description.
11th	1st	4.4 Stack, Stack pointer & stack top
	2nd	4.5 Interrupts
	3rd	4.6 Opcode & Operand,
	4th	4.7 Differentiate between one byte, two byte & three byte instruction with example.
	5th	4.8 Instruction set of 8085 example
12th	1st	**Continue**
	2nd	4.9 Addressing mode
	3rd	4 .10 Fetch Cycle, Machine Cycle, Instruction Cycle, T-State
	4th	4.11 Timing Diagram for memory read, memory write, I/O read, I/O write
	5th	**Continue**
13th	1st	4.12 Timing Diagram for 8085 instruction
	2nd	4.13 Counter and time delay.
	3rd	4. 14 Simple assembly language programming of 8085.
	4th	**Continue**
	5th	**Continue**
14th	1st	**5. Interfacing And Support Chips(10)** 5.1 Basic Interfacing Concepts, Memory mapping & I/O mapping
	2nd	**Continue**
	3rd	5.2 Functional block diagram and description of each block of Programmable peripheral interface Intel 8255 ,
	4th	**Continue**
	5th	5.3 Application using 8255: Seven segment LED display,
15th	1st	**Continue**
	2nd	Square wave generator,
	3rd	**Continue**
	4th	Traffic light Controller
	5th	**Continue**

Signature of the Faculty