

PSIET, KARANDA, DHENKANAL

LESSON PLAN Session(2022-2023)

Discipline : Electrical Engineering	Semester : 5 th Winter/2022	Name of the Faculty : Ajit Kumar Bisoi, Lecturer
Subject : Digital Electronics & Microprocessor	No. of Days/Week: 05	Start Date : 15/09/2022 End Date : 21/01/2023

Week	Class Day	Theory Topics
1st	1st	Number System-Binary, Octal, Decimal, Hexadecimal
	2nd	Conversion from one system to another number system
	3rd	Arithmetic Operation-Addition, Subtraction, Multiplication, Division
	4th	1's & 2's complement of Binary numbers & Subtraction using complements method
	5th	Digital Code & its application & distinguish between weighted & non-weight Code
2nd	1st	Binary codes, excess-3 and Gray codes
	2nd	Logic gates: AND, OR, NOT, NAND, NOR, Exclusive-OR, Exclusive-NOR--Symbol, Function, expression, truth table & timing diagram
	3rd	Universal Gates & its Realisation
	4th	Boolean algebra, Boolean expressions, Demorgan's Theorems

	5th	Boolean algebra, Boolean expressions, Demorgan's Theorems
3rd	1st	Represent Logic Expression: SOP & POS forms
	2nd	Karnaugh map (3 & 4 Variables)&Minimization of logical expressions
	3rd	Karnaugh map (3 & 4 Variables)&Minimization of logical expressions, don't care conditions
	4th	Review, Practice, doubt clearing
	5th	Quiz test
4th	1st	Half adder, Half Subtractor
	2nd	Full adder
	3rd	Serial and Parallel Binary 4 bit adder
	4th	Full Subtractor
	5th	Multiplexer (4:1)
5th	1st	De- multiplexer (1:4)
	2nd	Decoder, Encoder
	3rd	Digital comparator
	4th	Seven segment Decoder
	5th	Revision
6th	1st	Quiz test
	2nd	Principle of flip-flops operation, its Types
	3rd	SR Flip Flop using NAND,NOR Latch (un clocked)
	4th	C l o c k e d SR, D FF
	5th	JK,T FF
7th	1st	JK Master Slave flip-flops-Symbol, logic Circuit, truth table and applications
	2nd	Concept of Racing and how it can be avoided
	3rd	Review, Doubt clearing
	4th	Shift Registers its need
	5th	Serial in Serial -out Shift Register working Principle
8th	1st	Serial- in Parallel-out Shift Register working principle
	2nd	Parallel in serial out and Parallel in parallel out

	3rd	Universal shift registers-Applications
	4th	Types of Counter & applications
	5th	Binary counter, Asynchronous ripple counter
9th	1st	Decade counter
	2nd	Synchronous counter
	3rd	Synchronous counter
	4th	Ring Counter
	5th	Introduction to microprocessor, microcomputer
10th	1st	Architecture of Intel 8085A description of each block
	2nd	Pin diagram and description
	3rd	Quiz Test
	4th	Stack
	5th	Interrupts
11th	1st	Opcode & operand
	2nd	Difference between one byte, two byte three byte instruction with example
	3rd	Instruction set of 8085 microprocessor
	4th	Addressing mode
	5th	Fetch cycle, machine cycles, instruction cycle, T-state
12th	1st	Timing diagram of memory read, write, I/O read write
	2nd	Timing diagram of 8085 instruction
	3rd	Counter and time delay
	4th	Simple Assembly language programming
	5th	Doubt clearing, Practice
13th	1st	Quiz Test
	2nd	Basic interfacing concepts
	3rd	Memory mapping
	4th	I/O mapping
	5th	Functional block diagram of Intel 8255
14th	1st	Revision
	2nd	Description of each block of Intel 8255
	3rd	Application using 8255

	4th	Seven segment display
	5th	Square wave generator
15th	1st	Revision and assignment Q/A discussion
	3rd	Practice
	4th	Traffic light controller
	5th	Important question answer discussion

A. K. B. S. W.

Signature of the faculty

[Signature]
15/9/22

Signature of the Principal