Bhubanananda Orissa School of Engineering
Lesson Plan

Discipline:E &TC	**Semester:3rd**	**Name of the Teaching Faculty: MIHIR KUMAR MOHANTY**
Subject Digital electronics	No of Days/per week class allotted:4	Semester from 01.07 2024to 08.11.2024 No of weeks:15
Week No.	**Class Day**	**Theory Topics**
1st	01-07-2024	Unit-1: Basics of Digital Electronics 1.1 Number System-Binary, Octal, Decimal, Hexadecimal - Conversion from one system to another number system.
	03-07-2024	1.2 Arithmetic Operation-Addition, Multiplication, Division Usingcomplements method.
	04-07-2024	1's & 2's complement of Binary numbersSubtraction using complements method.
	05-07-2024	1.3 Digital Code & its application & distinguish between weighted & non-weight Code, Binary codes.
2nd	08-07-2024	1.3 Digital Code & its application & distinguish between weighted & non-weight Code, Binary codes
	10-07-2024	Excess-3 andGraycodes.
	11-07-2024	1.4 Logic gates: AND,OR,NOT,NAND,NOR, Exclusive-OR, Exclusive-NOR--Symbol, Function, expression, truth table & timing diagram
	12-07-2024	1.4 Logic gates: AND,OR,NOT,NAND,NOR, Exclusive-OR, Exclusive-NOR--Symbol, Function, expression, truth table & timing diagram
3rd	15-07-2024	**REVISION**
	18-07-2024	1.5 Universal Gates & its Realisation.
	19-07-2024	1.5 Universal Gates & its Realisation.
4th	22-07-2024	1.6 Boolean algebra
	24-07-2024	Boolean expressions,Demorgan's Theorems
	25-07-2024	1.7 Represent Logic Expression: SOP & POS forms
	26-07-2024	**Solve question**
5th	29-07-2024	1.7 Represent Logic Expression: SOP & POS forms
	31-07-2024	Solve question
	01-08-2024	1.8 Karnaugh map (3 Variables)&Minimization of logical expressions, don't care conditions.
	02-08-2024	1.8 Karnaughmap (4 Variables)&Minimization of logical expressionsdon't care conditions

Bhubanananda Orissa School of Engineering
Lesson Plan

I

6th	05-08-2024	Unit-2: Combinational logic circuits 2.1 Half adder, Full adder
	07-08-2024	Half Subtractor, Full Subtractor
	08-08-2024	Serial Binary 4 bit adder. Parallel Binary 4 bit adder
	09-08-2024	2.2 Multiplexer (4:1), De- multiplexer (1:4)
7th	12-08-2024	Decoder ,Encoder
	14-08-2024	Digital comparator (3bits) seven segment display
	16-08-2024	3.1 Principle of flip-flops operation, its Types
8th	21-08-2024	3.2 SR Flip Flop using NAND,NOR Latch (un clocked)
	22-08-2024	3.2 SR Flip Flop using NAND,NOR Latch (un clocked) 3.3 Clocked SR, D Symbol, logic Circuit, truth table and applications.
	23-08-2024	3.3 Clocked SR, D Symbol, logic Circuit, truth table and applications.
9th	28-08-2024	Master Slave flip-flops- 3.4 Concept of Racing and how it can be avoided
	29-08-2024	Master Slave flip-flops- 3.4 Concept of Racing and how it can be avoided
	30-08-2024	**REVISION**
10th	02-09-2024	**Solve question**
	04-09-2024	**Class Test-1**
	05-09-2024	Unit-4 4.1 Shift Registers-Serial in Serial -out, Serial- in Parallel-out
	06-09-2024	Shift Registers Parallel in serial out and Parallel in parallel out.
11th	09-09-2024	4.2 Universal shift registers-Applications.
	11-09-2024	4.3 Types of Counter & applications
	12-09-2024	**Internal Assessment-1**
	13-09-2024	**Internal Assessment-1**
12th	18-09-2024	4.4 Binary counter
	19-09-2024	Asynchronous ripple counter (UP & DOWN) Decade counter
	20-09-2024	Asynchronous ripple counter (UP & DOWN) Decade counter
13th	23-09-2024	Synchronous counter, Ring Counter
	25-09-2024	4.5 Concept of memories-RAM, ROM, static RAM, dynamic RAM,PS RAM
	26-09-2024	4.6 Basic concept of PLD & applications
	27-09-2024	**REVISION**

Bhubanananda Orissa School of Engineering
Lesson Plan

I

14th	30-09-2024	Unit-5: A/D and D/A Converters.
	03-10-2024	5.1 Necessity of A/D and D/A converters.
	04-10-2024	5.2 D/A conversion using weighted resistors methods.
15th	14-10-2024	5.3 D/A conversion using R-2R ladder (Weighted resistors)network
	17-10-2024	5.3 D/A conversion using R-2R ladder (Weighted resistors)network
	18-10-2024	5.4 A/D conversion using counter method.
16th	21-10-2024	5.5 A/D conversion using Successive approximate method.
	23-10-2024	Unit-6: INTRODUCTION TO LOGIC FAMILIES Overview on different logic families
	24-10-2024	6.1 Various logic families &categories according to the IC fabrication process
	25-10-2024	6.2 Characteristics of Digital ICs- Propagation Delay, fan-out, fan-in, Power Dissipation.
17th	28-10-2024	Noise Margin, Power Supply requirement &Speed with Reference to logic families.
	30-10-2024	6.3 Features, circuit operation of TTL(NAND) Features, circuit operation of CMOS (NAND & NOR)
	01-11-2024	various applications of TTL(NAND) &CMOS (NAND)
18th	04-11-2024	**OVERALL REVISION**
	06-11-2024	**OVERALL REVISION**
	07-11-2024	**PREVIOUS YEAR QUESTION DISCUSSION**
	08-11-2024	**PREVIOUS YEAR QUESTION DISCUSSION**

Signature of Faculty

H.O.D, E&TC **Principal**