

Bhubanananda Orissa School of Engineering

Lesson Plan

Discipline: AE&I	Semester: 3 rd	Name of the Teaching Faculty: Sangram Kishore Mohanty
Subject: Digital Electronics and Circuit	No of Days/per week class allotted:4	Semester from 01.07 2024 to 08.11.2024 No of weeks:19
Week No.	Class Day MON,TUES,WED, FRI	Theory Topics
1 st	01/07/2024	Syllabus discussion, mission vision PEO discussion
	02/07/2024	Unit-1: Basics of Digital Electronics 1.1 Number System-Binary, Octal, Conversion from one system to another number system.
	03/07/2024	Decimal, Hexadecimal - Conversion from one system to another number system.
	05/07/2024	1.2 Arithmetic Operation-Addition, Subtraction, Multiplication, Division, 1's & 2's complement of Binary numbers& Subtraction using complements method
2 nd	08/07/2024	1.3 Digital Code & its application & distinguish between weighted & non-weight Code, Binary codes, excess-3 and Gray codes.
	09/07/2024	1.4 Logic gates: AND,OR,NOT,NAND,-Symbol, Function, expression, truth table & timing diagram, NOR, Exclusive-OR, Exclusive-NOR--Symbol, Function, expression, truth table & timing diagram
	10/07/2024	1.5 Universal Gates& its Realization , 1.6 Boolean algebra, Boolean expressions, Demorgan's Theorems.
	12/07/2024	1.7 Represent Logic Expression: SOP & POS forms
3 rd	15/07/2024	1.7 Represent Logic Expression: SOP & POS forms
	16/07/2024	1.8 Karnaugh map (3 & 4 Variables)& ,don't care conditions
	19/07/2024	Minimization of logical expressions
4 th	22/07/2024	Minimization of logical expressions Cont...
	23/07/2024	Unit-2: Combinational logic circuits 2.1 Half adder, Full adder, Half Subtractor, Full Subtractor,
	24/07/2024	Serial Binary 4 bit adder.
	26/07/2024	Parallel Binary 4 bit adder.
6 th	29/07/2024	2.2 Multiplexer (4:1)
	30/07/2024	De- multiplexer (1:4)
	31/07/2024	Decoder, Encoder
	02/08/2024	Digital comparator (3 Bit)
7 th	05/08/2024	2.3 Seven segment Decoder (Definition, relevance, gate level of circuit Logic circuit of above)
	06/08/2024	Seven segment Decoder (truth table, Applications of above)
	07/08/2024	Revision on Ch-1 & 2
	09/08/2024	Class Test-1
8 th	12/08/2024	Unit-3: Sequential logic Circuits 3.1 Principle of flip-flops operation, its Types,
	13/08/2024	3.2 SR Flip Flop using NAND Latch (un clocked)
	14/08/2024	SR Flip Flop using NOR Latch (un clocked)
	16/08/2024	3.3 Clocked SR Flip Flop-Symbol, logic Circuit, truth table and applications
9 th	20/08/2024	D Flip Flop-Symbol, logic Circuit, truth table and applications

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	21/08/2024	JK FLIP FLOP-Symbol, logic Circuit, truth table and applications
	23/08/2024	T Flip Flop-Symbol, logic Circuit, truth table and applications
10 th	27/08/2024	JK Master Slave flip-flops-Symbol, logic Circuit, truth table and applications
	28/08/2024	3.4 Concept of Racing and how it can be avoided.
	30/08/2024	3.5 Concept of memories-RAM, ROM, static RAM, dynamic RAM,PS RAM,
11 th	02/09/2024	3.6 Basic concept of PLD & applications
	03/09/2024	Unit-4: Registers, Memories & PLD 4.1 Shift Registers-Serial in Serial -out, Serial- in Parallel-out,
	04/09/2024	Parallel in serial out and Parallel in parallel out
	06/09/2024	4.2 Universal shift registers-Applications.
12 th	09/09/2024	4.3 Types of Counter & applications
	10/09/2024	Internal Assessment
	11/09/2024	Internal Assessment
	13/09/2024	4.4 Binary counter, Asynchronous ripple counter (UP & DOWN),
13 th	17/09/2024	4.4 Binary counter, Asynchronous ripple counter (UP & DOWN)
	18/09/2024	Decade counter. Synchronous counter, Ring Counter
	20/09/2024	Revision on Ch-3 & 4
14 th	23/09/2024	Class Test-2
	24/09/2024	Unit-5: A/D and D/A Converters 5.1 Necessity of A/D and D/A converters.
	25/09/2024	5.2 D/A conversion using weighted resistors methods.
	27/09/2024	5.3 D/A conversion using R-2R ladder (Weighted resistors)network.
15 th	30/09/2024	5.4 A/D conversion using counter method.
	01/10/2024	5.5 A/D conversion using Successive approximate method
	04/10/2024	Unit-6: LOGIC FAMILIES 6.1 Various logic families &
16 th	14/10/2024	categories according to the IC fabrication process
	15/10/2024	6.2 Characteristics of Digital ICs- Propagation Delay, fan-out, fan-in, Power Dissipation
	18/10/2024	Noise Margin, Power Supply requirement &Speed with Reference to logic families.
17 th	21/10/2024	6.3 Features, circuit operation &various applications of TTL(NAND)
	22/10/2024	Features, circuit operation &various applications of CMOS (NAND)
	23/10/2024	Features, circuit operation &various applications of CMOS (NOR)
	25/10/2024	Revision on Ch-5 & 6
18 th	28/10/2024	Class Test-3
	29/10/2024	Revision on Chapter-1
	30/11/2024	Revision on Chapter-2
	01/11/2024	Revision on Chapter-3
19 th	04/11/2024	Revision on Chapter-4
	05/11/2024	Revision on Chapter-5
	06/11/2024	Revision on Chapter-6
	08/11/2024	Previous year Question Discussion

Signature of Faculty