

BHUBANANANDA ORISSA SCHOOL OF ENGINEERING,CUTTACK
DEPARTMENT OF ELECTRICAL ENGINEERING
LESSON PLAN



ACADEMIC SESSION: 2024-25

FACULTY : IPSITA MOHANTY

SEMESTER:5TH

SECTION:C

Discipline: Electrical Engg.	Semester: 5th (C)	Name of the faculty : Ipsita Mohanty
Subject- DIGITAL ELECTRONICS & MICROPROCESSOR (TH-1)	No. of Days/per week class allotted: 05 PERIODS/WEEK (MON,TUES,WED,THUR,FRI)	Semester: From Date: 01/07/2024 To Date: 08/11/2024 No. of weeks: 18 WEEKS
Week	Class Day	Theory/Practical Topics
1 st (01/07/2024-06/07/2024)	01/07/2024	1. Basics of Digital Electronics 1.1 Binary, Octal, Hexadecimal number systems and compare with Decimal system.
	02/07/2024	1.1 Binary, Octal, Hexadecimal number systems and compare with Decimal system.
	03/07/2024	1.1 Binary, Octal, Hexadecimal number systems and compare with Decimal system.
	04/07/2024	1.2 Binary addition, subtraction, Multiplication and Division. 1.3 1's complement and 2's complement numbers for a binary number.
	05/07/2024	1.3 1's complement and 2's complement numbers for a binary number.
2 nd (08/07/2024-13/07/2024)	08/07/2024	1.3 1's complement and 2's complement numbers for a binary number.
	09/07/2024	1.4 Subtraction of binary numbers in 2's complement method.
	10/07/2024	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.
	11/07/2024	1.6 Importance of parity Bit.
	12/07/2024	1.7 Logic Gates: AND, OR, NOT, NAND, NOR and EX-OR gates with truth table.
3 rd (15/07/2024-20/07/2024)	15/07/2024	1.7 Logic Gates: AND, OR, NOT, NAND, NOR and EX-OR gates with truth table.
	16/07/2024	1.8 Realize AND, OR, NOT operations using NAND, NOR gates.
	18/07/2024	1.8 Realize AND, OR, NOT operations using NAND, NOR gates.
	19/07/2024	1.9 Different postulates and De-Morgan's theorems in Boolean algebra.
4 th (22/07/2024-27/07/2024)	22/07/2024	1.9 Different postulates and De-Morgan's theorems in Boolean algebra.

	23/07/2024	1.10 Use Of Boolean Algebra For Simplification Of Logic Expression
	24/07/2024	1.10 Use Of Boolean Algebra For Simplification Of Logic Expression
	25/07/2024	1.10 Use Of Boolean Algebra For Simplification Of Logic Expression
	26/07/2024	1.11 Karnaugh Map For 2,3,4 Variable, Simplification Of SOP And POS Logic Expression Using K-Map.
5 th (29/07/2024-03/08/2024)	29/07/2024	1.11 Karnaugh Map For 2,3,4 Variable, Simplification Of SOP And POS Logic Expression Using K-Map.
	30/07/2024	1.11 Karnaugh Map For 2,3,4 Variable, Simplification Of SOP And POS Logic Expression Using K-Map.
	31/07/2024	2. Combinational Logic Circuits
	01/08/2024	2.1 Give the concept of combinational logic circuits.
	02/08/2024	2.2 Half adder circuit and verify its functionality using truth table.
	02/08/2024	2.3 Realize a Half-adder using NAND gates only and NOR gates only.
6 th (05/08/2024-10/08/2024)	05/08/2024	2.4 Full adder circuit and explain its operation with truth table
	06/08/2024	2.5 Realize full-adder using two Half-adders and an OR – gate and write truth table.
	06/08/2024	2.5 Realize full-adder using two Half-adders and an OR – gate and write truth table.
	07/08/2024	2.6 Full subtractor circuit and explain its operation with truth table.
	08/08/2024	2.6 Full subtractor circuit and explain its operation with truth table
	09/08/2024	CLASS TEST -1
7 th (12/08/2024-17/08/2024)	12/08/2024	2.7 Operation of 4 X 1 Multiplexers and 1 X 4 demultiplexer.
	13/08/2024	.2.8 Working of Binary-Decimal Encoder & 3 X 8 Decoder.
	14/08/2024	2.8 Working of Binary-Decimal Encoder & 3 X 8 Decoder.
	16/08/2024	3. Sequential Logic Circuits
	16/08/2024	3.1 Give the idea of Sequential logic circuits.
8 th (19/08/2024-24/08/2024)	20/08/2024	3.2 State the necessity of clock and give the concept of level clocking and edge triggering.
	20/08/2024	3.2 Clocked SR flip flop with preset and clear inputs.
	20/08/2024	3.4 Construct level clocked JK flip flop using S-R flip-flop and explain with truth table.
	21/08/2024	3.5 Concept of race around condition and study of master slave JK flip flop.

	22/08/2024	3.6 Give the truth tables of edge triggered D and T flip flops and draw their symbols
	23/08/2024	3.7 Applications of flip flops
9 th (26/08/2024-31/08/2024)	27/08/2024	3.8 Define modulus of a counter.
	28/08/2024	3.9 4-bit asynchronous counter and its timing diagram
	29/08/2024	3.10 Asynchronous decade counter
	30/08/2024	3.10 Asynchronous decade counter
10 th (02/09/2024-07/09/2024)	02/09/2024	3.11 4-bit synchronous counter
	03/09/2024	3.11 4-bit synchronous counter
	04/09/2024	3.12 Distinguish between synchronous and asynchronous counters
	05/09/2024	3.13 State the need for a Register and list the four types of registers
	06/09/2024	3.14 Working of SISO, SIPO, PISO, PIPO Register with truth table using flip flop
11 th (09/09/2024-14/09/2024)	09/09/2024	4. 8085 Microprocessor
	10/09/2024	4.1 Introduction to Microprocessors, Microcomputers
	11/09/2024	4.2 Architecture of Intel 8085A Microprocessor and description of each block
	12/09/2024	INTERNAL ASSESSMENT
	13/09/2024	INTERNAL ASSESSMENT
12 th (16/09/2024-21/09/2024)	17/09/2024	4.3 Pin diagram and description
	18/09/2024	4.4 Stack, Stack pointer & stack top
	19/09/2024	4.5 Interrupts
	20/09/2024	4.5 Interrupts
	20/09/2024	4.6 Opcode & Operand
13 th (23/09/2024-28/09/2024)	23/09/2024	4.7 Differentiate between one byte, two byte & three byte instruction with example

	24/09/2024	4.7 Differentiate between one byte, two byte & three byte instruction with example
	25/09/2024	4.8 Instruction set of 8085 example
	26/09/2024	4.8 Instruction set of 8085 example
	27/09/2024	4.9 Addressing modes
14 th (30/09/2024-05/10/2024)	30/09/2024	4.9 Addressing modes
	01/10/2024	4.10 Fetch Cycle, Machine Cycle, Instruction Cycle, T-State
	03/10/2024	QUIZ TEST
	04/10/2024	4.10 Fetch Cycle, Machine Cycle, Instruction Cycle, T-State
15 th (14/10/2024-19/10/2024)	14/10/2024	4.11 Timing Diagram for memory read, memory write, I/O read, I/O write
	15/10/2024	CLASS TEST 2
	17/10/2024	4.12 Timing Diagram for 8085 instruction
	18/10/2024	4.12 Timing Diagram for 8085 instruction
16 th (21/10/2024-26/10/2024)	21/10/2024	4.12 Timing Diagram for 8085 instruction
	22/10/2024	4.13 Counter and time delay
	23/10/2024	4.13 Counter and time delay
	24/10/2024	4.14 Simple assembly language programming of 8085
	25/10/2024	4.14 Simple assembly language programming of 8085
17 th (28/10/2024-02/11/2024)	28/10/2024	5. INTERFACING AND SUPPORT CHIPS
	29/10/2024	5.1 Basic Interfacing Concepts
		5.2 Memory mapping & I/O mapping Functional block diagram and description of each block of Programmable peripheral interface Intel 8255
	30/10/2024	5.2 Memory mapping & I/O mapping Functional block diagram and description of each block of Programmable peripheral interface Intel 8255
	01/11/2024	5.2 Memory mapping & I/O mapping Functional block diagram and description of each block of Programmable peripheral interface Intel 8255

18 th (04/11/2024-08/11/2024)	04/11/2024	5.3 Application using 8255: Seven segment LED display, Square wave generator, Traffic light Controller
	05/11/2024	5.3 Application using 8255: Seven segment LED display, Square wave generator, Traffic light Controller
	06/11/2024	REVISION
	07/11/2024	DISCUSSION OF PREVIOUS YEAR QUESTIONS
	08/11/2024	REVISION & DISCUSSION OF PREVIOUS YEAR QUESTIONS