

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF
ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN
Session-2023-2024

Discipline: Electrical Engg. Semester: 5th

Subject: Digital Electronics & Microprocessor (Digital)

Name of the Teaching Faculty: Niranjana Behera

Subject: Digital Electronics No. of Days/per week class allotted 02Semester From Date: 01/08/2023 To Date: 30/11/2023 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
01	01	Number system, Decimal, Binary, octal and Hexadecimal number system. Binary addition
	02	Binary addition, subtraction, multiplication and division. 1's complement and 2's complement numbers
02	03	Subtraction of binary numbers in 1's and 2's complement method
	04	Use of weighted and un-weighted codes 8421, XS-3 and Gray code. Importance of parity bit
03	05	Logic gates with truth table, universal gate and realise of all gate using universal gate
	06	Boolean Algebra
04	07	De-morgan theorem. Use of Boolean Algebra for simplification of logic expression
	08	K-map for 2, 3 and 4 variable
05	09	Simplification of SOP and POS logic expression using K-map
	10	Do not care
06	11	Concept of combinational logic circuit
	12	Half adder circuit and functionality using truth table. Realise a Half-adder using NOR gate

Niranjan Behera
Signature of the Faculty

Subject: Digital Electronics No. of Days/per week class allotted 02

Semester From Date: 01/08/2023 To Date: 30/11/2023 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
07	13	Realise a Half-adder using NAND gate Full-adder circuit
	14	Full-adder circuit and its operation with truth table Realise full-adder using two half-adder circuit
08	15	Half subtractor, Full subtractor circuit and explain its operation with truth table
	16	operation of 4x1 Multiplexor
09	17	operation of 1x4 demultiplexor
	18	Binary - Decimal Encoder and Decoder
10	19	Working of two bit magnitude comparators
	20	Revision of previous chapters
11	21	Sequential logic circuit
	22	Necessity of clock, level clocking and edge triggering
12	23	Clock SR Flip-flop, J-K Flip-flop :
	24	Race-around condition and MS JK F/F D and T Flip-flop

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Subject: Digital Electronics No. of Days/per week class allotted 02

Semester From Date: 01/10/2023 To Date: 30/11/2023 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
13	25	Application of flip-flop, modulus of a counter
	26	4-bit asynchronous counter and its timing diagram
14	27	A synchronous decade counter 4-bit synchronous counter
	28	Distinguish between synchronous and asynchronous counter
15	29	Register and type of register
	30	Working of SISO, SIPO, PISO and PIPO register Question discussion

Niranjan Behara
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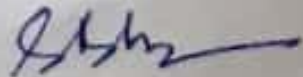
Subject: DEMP (Microprocessor)

Name of the Teaching Faculty: Subhramita Bhai

Subject: DEMP No. of Days/per week class allotted 02

Semester From Date: 01.08.2023 To Date: 30.11.2023 No. of Weeks: 15

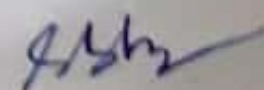
Week	Class Day	Theory / Practical Topics
1	1	Introduction to Microprocessor, Microcomputers
	2	Architecture of Intel 8085A Microprocessor
2	3	Description of each block of 8085A MP.
	4	Pin Diagram & Description
3	5	Pin Diagram & Description
	6	Stack, Stack pointer & Stack Top.
4	7	Interrupts
	8	Revisions
5	9	Opcode & Operand
	10	Differentiate between One byte, two byte & Three byte instruction with examples.


Signature of the Faculty

Subject: DEMP No. of Days/per week class allotted 02

Semester From Date: 01.05.2023 To Date: 30.11.2023 No. of Weeks: 15

Week	Class Day	Theory /Practical Topics
6	11	Instruction Set of 8085 example
	12	Addressing Mode
7	13	Fetch cycle, Machine cycle, Instruction-cycle, T-State
	14	Timing Diagram of Memory Read Machine cycle
8	15	Timing Diagram of Memory Write Machine cycle.
9	16	Timing Diagram of I/O Read, I/O-Write Machine cycle.
	17	Timing Diagram of 8085 instruction
10	18	Discussion of Timing process of 8085 Microprocessor.
	19	Counter & Time Delay
11	20	Simple assembly language programming 8085 Microprocessor.
	21	Programming continue.



Signature of the Faculty

Subject: D E M P No. of Days/per week class allotted 02

Semester From Date: 01.08.2023 To Date: 30.11.2023 No. of Weeks: 15

Week	Class Day	Theory /Practical Topics
12	22	Basic Interfacing Concept
	23	Memory Mapping & I/O Mapping Functional Block Diagram of 8255 PPI
13	24	8255 Functional block Diagram
	25	Description of each block of 8255 PPI
14	26	Application using 8255: Seven- Segment display
	27	LED Display
15	28	Square-Wave Generator.
	29	Traffic Light Controller
	30	Revision.

Signature of the Faculty