

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF
ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN
Session-2022-2023

Discipline: Electrical Engg. Engg. Semester: 5th

Name of the Teaching Faculty: Niranjan Behera

Digital Electronics & Microprocessor

Subject: Digital Electronics ~~4 MIT 2022~~ No. of Days/per week class allotted 02

Semester From Date: 15/09/2022 To Date: 22/12/2022 No. of Weeks: 15

Week	Class Day	Theory /Practical Topics
01	01	Numbers System, Decimal, Binary, octal and Hexadecimal number system, Binary Arithmetic
	02	Binary Arithmetic, 1's complement and 2's complement number
02	03	Subtraction of binary number in 1's and 2's complement method
	04	Use of weighted and un-weighted codes 8421, XS-3 code and Gray code, parity bit
03	05	Logic gates with truth table, universal gate
	06	Realised all gate in universal gate and Boolean Algebra
04	07	De-morgan theorem, Use of Boolean Algebra for simplification of logic expression
	08	K-map for 2, 3, 4 variable
05	09	Simplification of SOP and POS logic expression using K-map
	10	Don't care
06	11	Concept of Combinational Logic circuit Half adder circuit
	12	Half adder functionality using truth table Half adder using NAND gate

Niranjan Behara
Signature of the Faculty

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

Semester From Date : 15/09/2022 To Date : 22/12/2022 No. of Weeks : 15

Week	Class Day	Theory/Practical Topics
07	13	Realise HA using NOR gate, Full adder circuit and its operation with truth table
	14	Realise full adder using two half adder
08	15	Half Subtractor, Full Subtractor circuit
	16	Full Subtractor. operation of 4x1 multiplexer
09	17	operation of 1x4 demultiplexer
	18	Binary-Decimal Encoder and Decoder
10	19	Working of two bit magnitude comparator
	20	Sequential logic circuit
11	21	Necessity of Clock, level clocking and edge triggering
	22	Clock SR F/F
12	23	J-K Flip-Flop
	24	Race-around condition and ms JK F/F

Niranjan Behera
Signature of the Faculty

Subject: DEMPNo. of Days/per week class allotted 02Semester From Date : 15/09/2022 To Date : 22/12/2022 No. of Weeks : 15

Week	Class Day	Theory / Practical Topics
13	25	D and T Flip-Flop . Application of Flip.Flop
	26	Modulus of a counter 4-bit asynchronous counter and its timing diagram
14	27	Asynchronous decade counter 4-bit synchronous counter
	28	Distinguish between synchronous and Asynchronous counter
15	29	Registers and type register
	30	Working of SISO, SIPO, PISO, PIPO registers

Nirranjan Behara
Signature of the Faculty

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN Session-2022-2023

Discipline: Electrical Engg. Semester: 5th

Name of the Teaching Faculty: Subhramita Bha'

Digital Electronics & Microprocessor

Subject: DE & MP No. of Days/per week class allotted 2

Semester From Date: 15.09.22 To Date: 22.12.22 No. of Weeks: 15

Week	Class Day	Theory/Practical Topics
1	1	Introduction to Microprocessor, Microcomputer
	2	Architecture of 8085A Microprocessor
2	3	Description of each block
	4	Pin diagram & Description
3	5	Pin diagram & Description
	6	Stack, Stack pointer & Stack top
4	7	Interrupts
	7	Revision
4	8	OpCode & Operand
5	9	Differentiate between one byte, two byte & three byte instructions with examples

Subhroemita Bha!
Signature of the Faculty

Subject: DE&MP No. of Days/per week class allotted 2

Semester From Date: 15.09.22 To Date: 22.12.22 No. of Weeks: 15

Week	Class Day	Theory /Practical Topics
	10	Instruction set of 8085 μ P
6	11	Addressing Mode
	12	Fetch cycle, Machine cycle
7	13	Instruction cycle, T. State
	14	Timing diagram of Memory Read MC,
8	15	Memory Write Machine cycle
	16	Timing diagram of I/O Read & I/O Write
9	17	Timing diagram of 8085 instructions
	18	Discussion
10	19	Counter & Time Delay
	20	Simple assembly language programming
11	21	programming

Subhasmita Bha
Signature of the Faculty

Subject: DE & MP No. of Days/per week class allotted 2

Semester From Date : 15.09.22 To Date : 22.12.22 No. of Weeks : 15

Week	Class Day	Theory / Practical Topics
	22	Basic Interfacing Concept
12	23	Memory Mapping & I/O Mapping
	24	functional block diagram of 8255 PPI
13	25	8255 PPI description of each block
	26	Description of each block of 8255
14	27	Application using 8255 : Seven segment
	28	LED display, Revision
15	29	Square wave Generator
	30	Traffic light controller

Subhasmita Bha
Signature of the Faculty