

LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA	
Name of the Faculty: Miss Lipsa Panigrahi	Academic Year: 2021-22
Course No.: Th. 3	Course Name: DIGITAL ELECTRONICS & MICROPROCESSOR
Program: Diploma	Branch: Electrical Engineering
Year/Sem: 3 rd Year / 5 th Sem	Section: E-2

Week No.	Period	Time (min)	Unit/Chapter	Topic to be Covered	Teaching Method
1 st	1.	55	1	Introduction to Digital Electronics	Chalk & Board
	2.	55	1	Introduction to various number systems and conversion from one system to another number system	Chalk & Board
	3.	55	1	Arithmetic operations of Binary numbers, 1's & 2's compliment form and subtraction using compliment method	Chalk & Board
	4.	55	1	Weighted & non-weighted codes- Binary, excess-3 and Gray	Chalk & Board
	5.	55	1	Logic Gates – symbol, function, truth table & timing diagram	Chalk & Board
2 nd	6.	55	1	Concept of Universal gates and realization of various gates using NAND gate	Chalk & Board
	7.	55	1	Realization of various gates using NOR gate	Chalk & Board
	8.	55	1	Boolean algebra, Boolean expression	Chalk & Board
	9.	55	1	Various Boolean laws and De-Morgan's Theorem	Chalk & Board
	10.	55	1	SOP and POS representation of Logic Expressions	Chalk & Board
3 rd	11.	55	1	Karnough Map and related Numerical	Chalk & Board
	12.	55	1	Karnough Map and related Numerical	Chalk & Board
	13.	55	1	Karnough Map and related Numerical	Chalk & Board
	14.	55	1	Revision of Unit – 1 and solving numerical from the chapter	Chalk & Board
	15.	55	2	Introduction to various Combinational logic circuits	Chalk & Board
4 th	16.	55	2	Adder- half adder and Full Adder	Chalk & Board
	17.	55	2	Subtractor – Half and Full Subtractor	Chalk & Board
	18.	55	2	Operation of Multiplexer(4:1)	Chalk & Board
	19.	55	2	De-multiplexer (1:4)	Chalk & Board
	20.	55	2	Working of Binary – Decimal encoder & 3 X 8 decoder	Chalk & Board
5 th	21.	55	2	Working of 2 bit magnitude comparator	Chalk & Board
	22.	55	2	Revision of Unit – 2	Chalk & Board
	23.	55	3	Idea of Sequential Logic circuit & concept of clock	Chalk & Board
	24.	55	3	Concept of level and edge triggering , SR Flip – flop	Chalk & Board
	25.	55	3	Types of Flip-flop – SR, JK, D, T	Chalk & Board
6 th	26.	55	3	SR Flip-flop using NAND & NOR latch(unclocked)	Chalk & Board
	27.	55	3	Clocked SR flip flop & Clocked JK	Chalk & Board
	28.	55	3	D and T flip-flop	Chalk & Board
	29.	55	3	Circuit diagram, Truth table and logical expression of SR	Chalk & Board
	30.	55	3	Circuit diagram, Truth table and logical expression of JK flip-flop	Chalk & Board

7 th	31.	55	3	Circuit diagram, Truth table and logical expression of D and T flip-flop	Chalk & Board
	32.	55	3	Concept of Race Around Condition and idea of Master Slave Flip-flop & Operation of Master- Slave JK flip-flop	Chalk & Board
	33.	55	3	Application of Flip – flop , modulus of a counter	Chalk & Board
	34.	55	3	4 bit asynchronous counter and its timing diagram	Chalk & Board
	35.	55	3	Operation of asynchronous decade counter and 4 bit synchronous counter	Chalk & Board
8 th	36.	55	3	Shift registers- SISO, SIPO	Chalk & Board
	37.	55	3	Shift registers- PISO, PIPO & Operations of shift registers	Audio –Visual using Smart Class
	38.	55	3	Applications of Shift registers & Counter	Chalk & Board
	39.	55	3	Revision of Unit – 3	Chalk & Board
	40.	55	3	Revision of Unit – 3	Chalk & Board
9 th	41.	55	4	Introduction to microprocessor and micro computers	Chalk & Board
	42.	55	4	Architecture of Intel -8085A microprocessor & description of each block	Chalk & Board
	43.	55	4	Pin Diagram and its operation	Chalk & Board
	44.	55	4	Stack , Stack pointer and stack top	Chalk & Board
	45.	55	4	Interrupts	Chalk & Board
10 th	46.	55	4	Opcode and operand	Chalk & Board
	47.	55	4	Difference between different type of instruction with example	Chalk & Board
	48.	55	4	Instruction set of 8085	Chalk & Board
	49.	55	4	Addressing mode	Chalk & Board
	50.	55	4	Addressing mode	Chalk & Board
11 th	51.	55	4	Fetch cycle, machine cycle	Audio –Visual using Smart Class
	52.	55	4	Instruction Cycle , T- State	Audio –Visual using Smart Class
	53.	55	4	Timing diagram for memory read , memory write	Chalk & Board
	54.	55	4	Timing diagram for i/o read , i/o write	Chalk & Board
	55.	55	4	Timing diagram for 8085 instruction	Chalk & Board
12 th	56.	55	4	Timing diagram for 8085 instruction	Chalk & Board
	57.	55	4	Counter and time delay	Chalk & Board
	58.	55	4	Assembly language programming of 8085	Chalk & Board
	59.	55	4	Assembly language programming of 8085	Chalk & Board
	60.	55	4	Assembly language programming of 8085	Chalk & Board

13 th	61	55	4	Revision of Unit – 4	
	62	55	4	Revision of Unit – 4	Chalk & Board
	63	55	5	Basic interfacing concept, memory mapping & i/o mapping	Chalk & Board
	64	55	5	Block diagram of 8255 microprocessor	Chalk & Board
	65	55	5	Description of each block of 8255 and its application	Chalk & Board
14 th	66	55	5	7 segment LED display	Chalk & Board
	67	55	5	Square wave generator ,	Chalk & Board
	68	55	5	Traffic light controller	Chalk & Board
	69	55	5	Revision of Unit – 5	Chalk & Board
	70	55	5	Revision of Unit – 5	Chalk & Board
15 th	71	55		Previous year question paper practice	Chalk & Board
	72	55		Previous year question paper practice	Chalk & Board
	73	55		Previous year question paper practice	Chalk & Board
	74	55		Previous year question paper practice	Chalk & Board
	75	55		Previous year question paper practice	Chalk & Board

Reference :

1. Digital Electronics by P.Raja, Sci Tech Publication .
2. Digital Electronics by B.R. Gupta & V. Singhal , S.k . Kataria Publication .
3. Fundamental of Digital Electronics by Anand Kumar , PHI Publication
4. Fundamentals of micro processor and micro computer by B.Ram , Dhanpat rai publication .