

Discipline: CSE	Semester: 3rd	Name of the Teaching Faculty: ER. Kishora Kumar Sharma
Subject: Digital Electronics	No of Days/Week Class Allotted: 4	Semester from date: 15 Sep 2022 to date: _____ No. of Weeks: _____

WEEK	Class Day	Theory Topics
1st week 15/9/22 to 17/09/22	15.09.22 1st Thursday	Basic of Digital Electronics:- Number System - Binary, Octal, Decimal and Hexadecimal Conversion from one number to another number.
	17.09.22 2nd Saturday	Arithmetic Operation: addition, subtraction, multiplication and Division, 1's and 2's complement of binary number.
	3rd	
	4th	
	5th	
2nd week 19/9/22 to 24/9/22	19.09.22 1st Monday	1's and 2's complement subtraction using complement method.
	21.09.22 2nd Wednesday	Digital Code and it's application. Distinguish between weighted and non-weighted code.
	22.09.22 3rd Thursday	Binary code, Ex-3 code and Gray code.
	24.09.22 4th Saturday	Logic gates: AND, OR, NAND, NOR, EX-OR, EX-NOR functions, expression, truth table and timing diagrams.
	5th	
3rd week 26/09/22 to 1/10/22	26.09.22 1st Monday	Universal gates and it's realisation.
	28.09.22 2nd Wednesday	Boolean algebra, boolean expression and De-morgan's theorem.
	29.09.22 3rd Thursday	Represent logic expression of SOP and POS form.
	1.10.22 4th Saturday	3, 4 variable Karnaugh map, minimize logical expressions, don't care condition.
	5th	

WEEK	Class Day	Theory Topics
4th week 10/10/22 to 15/10/22	10.10.22 1st Monday	Combinational Logic Circuit: Half adder circuit and its truth table.
	12.10.22 2nd Wednesday	Full adder circuit and its truth table.
	13.10.22 3rd Thursday	Half subtractor circuit and its truth table.
	15.10.22 4th Saturday	Full subtractor circuit and its truth table.
	5th	
5th week 17/10/22 to 22/10/22	17.10.22 1st Monday	Serial and Parallel binary 4-bit adder.
	19.10.22 2nd Wednesday	4X1 Multiplexer and its function.
	20.10.22 3rd Thursday	1X4 Demultiplexer and its functionality.
	22.10.22 4th Saturday	Decoder circuit and its truth table.
	5th	
6th week 24/10/22 to 29/10/22	24.10.22 1st Monday	Encoder circuit and its truth tables.
	26.10.22 2nd Wednesday	3-bit Digital Comparator.
	27.10.22 3rd Thursday	Seven Segment decoder circuit and its truth table.
	29.10.22 4th Saturday	Application of seven segment decoder circuit.
	5th	

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WEEK	Class Day	Theory Topics
7 th week 31/10/22 to 5/11/22	31.10.22 1 st Monday	Introduction to flipflops.
	2.11.22 2 nd Wednesday	Basic principle operation of flip flop and it's types.
	3.11.22 3 rd Thursday	S-R flip flop using NAND latch (unlocked) Circuit.
	5.11.22 4 th Saturday	S-R flip flop using NOR latch (unlocked) Circuit.
	5 th	
8 th week 7/11/22 to 12/11/22	7.11.22 1 st Monday	Clocked S-R flip flop logic circuit and it's truth table.
	9.11.22 2 nd Wednesday	Clocked J-K flip flop logic circuit and it's truth table.
	10.11.22 3 rd Thursday	Clocked D-flip flop logic circuit and it's truth table.
	12.11.22 4 th Saturday	Clocked T-flip flop logic circuit and it's truth table.
	5 th	
9 th week 14/11/22 to 19/11/22	14.11.22 1 st Monday	Application of S-R, J-K, D and T flip flop.
	16.11.22 2 nd Wednesday	Master Slave flip flop logic circuit and it's truth table.
	17.11.22 3 rd Thursday	Application of master Slave JK flip flop circuit.
	19.11.22 4 th Saturday	Concept of race around and how it can be avoided.
	5 th	

WEEK	Class Day	Theory Topics
10th week 21/11/22 to 26/11/22	21.11.22 1st Monday	Registers, memories and PLD:- SIPO, SISO shift register.
	23.11.22 2nd Wednesday	PISO, PIPO shift register.
	24.11.22 3rd Thursday	Application of universal shift register.
	26.11.22 4th Saturday	Types of counter and its applications.
	5th	
11th week 28/11/22 to 3/12/22	28.11.22 1st Monday	Binary counter, Asynchronous ripple counter (UP and DOWN).
	30.11.22 2nd Wednesday	Decade counter, synchronous counter and ring counter.
	1.12.22 3rd Thursday	Concept of memories - RAM, ROM, Static RAM, dynamic RAM, PS RAM.
	3.12.22 4th Saturday	Basic concept of PLD and its application.
	5th	
12th week 5/12/22 to 10/12/22	5.12.22 1st Monday	A/D and D/A converters:- Necessity of A/D converters.
	7.12.22 2nd Wednesday	Necessity of digital to analog (D/A) converter.
	8.12.22 3rd Thursday	Digital to analog converter using weighted resistors method.
	10.12.22 4th Saturday	Digital to analog converter using R-2R ladder network.
	5th	

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WEEK	Class Day	Theory Topics
13 th week 17/12/22 to 17/12/22	12.12.22 1 st Monday	Analog to Digital Conversion using Counter method.
	14.12.22 2 nd Wednesday	Analog to Digital Conversion using Successive Approximate method.
	15.12.22 3 rd Thursday	Logic Families! Introduction to Logic Family.
	17.12.22 4 th Saturday	Various Logic Family and Categories according to the IC fabrication Process.
	5 th	
14 th week 19/12/22 to 22/12/22	19.12.22 1 st Monday	Characteristics of Digital ICs: Propagation delay.
	21.12.22 2 nd Wednesday	Fan in, Fan out.
	22.12.22 3 rd Thursday	Power dissipation, Noise margin.
	4 th Saturday	Power supply requirement & speed with reference to Logic Family.
	5 th	
15 th week	1 st Monday	Transistor-transistor-logic (TTL) its operation and features.
	2 nd Wednesday	Complementary metal oxide semiconductor (CMOS) by using NAND gate.
	3 rd Thursday	Complementary metal oxide semiconductor (CMOS) by using NOR gate.
	4 th Saturday	Application of TTL, CMOS circuit.
	5 th	