

Discipline:	CSE	Semester:	3rd	Name of the Teaching Faculty: Rudra Prasad Nanda	
Subject:	Digital Electronics	No of Days/Week Class Allotted:	1	Semester From date: 15.9.23 To date 21.1.23	No. of Weeks: 12
WEEK	Class Day	Theory Topics			
1	1st	Basic of Digital Electronics 1. Number system. Binary, Octal, Decimal & Hexa-Decimal.			
	2nd	Conversion from one system to another number system.			
	3rd	Arithmetic operation - Addition, subtraction, multiplication, Divisions.			
	4th	1's and 2's Complement of Binary Number and subtraction using complement method.			
	5th				
2	1st	Digital code and its applications and Digital both weight and non-weight.			
	2nd	Logic gate - AND, OR, NOT, NAND, NOR Exclusive-OR timing Diagram.			
	3rd	Universal gates and its realisations.			
	4th	Boolean algebra, Boolean Expression Demorgan's Theorem.			
	5th	*			
3	1st	Represent Logic Expression sum of product form.			
	2nd	Represent Logic Expression: sum of product or sum.			
	3rd	Karnaugh map 3 variable and minimization of logic expression condition			
	4th	Karnaugh map 4 variable and its maximization logic expression case.			
	5th				



WEEK	Class Day	Theory Topics
4	1st	Combinational logic circuit Half adder and its truth table verification.
	2nd	Full adder and its truth table verifications
	3rd	Half subtractor and its truth table verifications
	4th	Full subtractor and its truth table verification.
	5th	
5	1st	Serial and parallel Binary 11 Bit adder
	2nd	Multiplexer (11 max) and its truth table
	3rd	De-modulator (1-4 demux) and its truth table
	4th	Decoder and its truth table.
	5th	
6	1st	Encoder and its truth table.
	2nd	Digital comparator (3 Bit)
	3rd	Seven segment decoder (numeric conversion, gate level circuit)
	4th	Sequential logic circuit. Principal of flip-flop operation types
	5th	



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WEEK	Class Day	Theory Topics		
7	1st	SR Flip-Flop using NAND, NOR latch-1 (unclocked)		
	2nd	clocked SR, D logic circuit, truth table and its Applications.		
	3rd	clocked JK, T logic circuit, truth and an Applications		
	4th	D-K master slave Flip-Flop symbol logic circuit truth table and its.		
	5th			
8	1st	concept of Raceing and how it can be avoided		
	2nd	Registration, memory and PLD shift Registration application.		
	3rd	universal shift register Application.		
	4th	types of counter and Application.		
	5th			
9	1st	Binary counter, Asynchronous ripple counter (up and down)		
	2nd	Decode counter Asynchronous counter, Ring counter		
	3rd	concept memory: RAM, ROM Static RAM Dynamic RAM PS-RAM		
	4th	Basic concept of PLD and Applications.		
	5th			

WEEK	Class Day	Theory Topics
10	1st	A/D and D/A converter Necessity of A/D and D/A converters.
	2nd	D/A conversion using weighted Registered material
	3rd	D/A conversion using weighted ladder (weighted) Network.
	4th	A/D conversion using centers method.
	5th	
11	1st	A/D conversion using successive approximation method.
	2nd	various logic family & categories according to these process.
	3rd	characters of pinning Dmily Format, fan in power Dependa
	4th	Noise margin, power supply & speed within selected family.
	5th	
12	1st	Features, circuit operation & various application TTL gate.
	2nd	Features, circuit operation & various applications of CMOS (MOS) gates.
	3rd	
	4th	
	5th	

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