ARYAN

ARYAN SCHOOL OF ENGINEERING & TECHNOLOGY

ne: CSE	Semester: 3rd	Name of the Teaching Faculty ER. KISHORA KUMAR SASMAL	
ct: Digital Electronics	No of Days/Week Class Allotted: 4	Semester From date:_____ To date_____	No.of Weeks:

EEK	Class Day	Theory Topics
	1st	Basic of Digital Electronics: 1.1 Number System :- Binary, octal, Decimal, Hexa-decimal
	2nd	Conversion from one system to another number System.
	3rd	Arithmatic operation - Addition, Substraction, Multiplication, Division
	4th	1's and 2's Complement of binary numbers and Substraction using Complement method.
	5th	
	1st	Digital code and it's application and Distinguish bet^n weighted and non-weighted code, Binary, Excess-3 and Gray code.
	2nd	Logic gate : AND, OR, NOT, NAND, NOR, Exclusive-OR, Ex-NOR, Symbol, function, expression, truth table and timing diagram.
	3rd	universal gates and it's realisation
	4th	Boolean algebra, Boolean expressions, Demorgen's Theorems.
	5th	[illegible]
	1st	Represent logic expression : Sum of Product forms
	2nd	Represent logic expression : Product of Sum forms
	3rd	Karnaugh map 3 variable and minimization of logical expressions, don't care condition.
	4th	Karnaugh map 4 variable and minimization of logical expressions, don't care condition.
	5th	

EK	Class Day	Theory Topics
	1st	Combinational logic Circuits Half adder and it's truth table verification
	2nd	full adder and it's truth table verification.
	3rd	Half Substractor and it's truth table verification
	4th	full Substractor and it's truthtable verification
	5th	
	1st	Serial and parallel binary 4 bit adder.
	2nd	Multiplexer (4:1 MUX) and it's truth table
	3rd	De-multiplexer (1:4 DEMUX) and it's truth table.
	4th	Decoder and it's truth table.
	5th	[illegible]
	1st	Encoder and it's truth table.
	2nd	Digital Comparator (3 bit)
	3rd	Seven segment decoder (Defination, relevance, gate level Circuit logic Cut truth table)
	4th	Sequential logic Circuit :- principle of flip-flop operation and it's types
	5th	

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WEEK	Class Day	Theory Topics
	1st	SR Flip flop using NAND, NOR latched (unlocked)
	2nd	Clocked SR, D logic circuit, truth table and it's application.
	3rd	Clocked JK, T logic circuit, truth table and it's application
	4th	J-K master Slave flip-flop symbol, logic circuit truth table and it's application.
	5th	
	1st	Concept of Racing and how it can be avoided.
	2nd	Registers, memories and PLD Shift register – SISO, SIPO, PISO and PIPO.
	3rd	Universal shift registers applications.
	4th	types of counter and applications.
	5th	
	1st	Binary counter, Asynchronous ripple counter (up and down).
	2nd	Decade counter, Synchronous Counter, Ring Counter.
	3rd	Concept of memories RAM, Rom, Static RAM, Dynamic RAM, PS-RAM.
	4th	Basic Concept of PLD and application.
	5th	

Class Day	Theory Topics
1st	A/D and D/A Converter Necessity of A/D and D/A Converters.
2nd	D/A Conversion using weighted Resistors method.
3rd	D/A Conversion using R-2R ladder (weighted Resistors) network.
4th	A/D Conversion using Counter method.
5th	
1st	A/D Conversion using Successive approximate method.
2nd	Various logic family & categories according to the IC fabrication Process.
3rd	Characteristics of Digital ICs - Propagation Delay Fan-out, Fan-in Power dissipation.
4th	Noise margin, Power Supply requirment & Speed with reference to logic family.
5th	
1st	features, Circuit operation & various application of TTL (NAND) gate
2nd	features, Circuit operation & various application of CMOS (NAND and NOR) gate.
3rd	
4th	
5th	