DRONACHARYA COLLEGE OF ENGINEERING

KHENTAWAS, FARRUKHNAGAR, GURGAON, HR

Department: ECE

Academic Session: 2020-21 (MAY-AUG, 2021)

Lecture Plan with Asssignment questions

Subject with code: Digital Electronics (PCC-ECE-205G)

Name of Faculty with designation : Dr.Jyothi Varanasi, Associate Professor

S.No.	Month	Date & Day	Sem-Class	Unit	Topic/Chapter covered	Write Lecture Wise Questions
1			IV ECE	I	Review of Boolean Algebra and DeMorgan's Theorem,	1.List out all Postulates and theorems of Boolean Algebra. 2.What is DeMorgan's Theorem?
2			IV ECE	I	SOP & POS forms,	1.Analysis based Questions on SOP&POS forms.
3			IV ECE	I	Canonical forms complements of a numbers	1.What is a canonical form? 2. Write canonical &standatd forms of a boolean function.
4			IV ECE	I	addition and subtractions of a complements	1. Find 1's complement and 2's complement of a binary number. 2. Perform subtraction of two binary numbers using 2's complement.
5			IV ECE	I	numbers, Realization Using Gates	1. List out all the logic gates with their symbols. 2. Write the truth tables of AND Gate and OR Gate.
6			IV ECE	I	Karnaugh maps up to 6 variables , Q M & VEM technique,	1. What are minterms? 2. Explain the simplification of a Boolean function using K-map.
7			IV ECE	II	Combinational & Sequential Logic Design: Binary codes, error detection and correction code	1.Waht are the error detection codes? 2. Name some of the applications of error detection.
8			IV ECE	II	Code Conversion. Numericals	1.Explain the code conversion from decimal to binary and binary to BCD. 2.Explain the code conversion from decimal to binary and binary to Excess-3.

9			IV ECE	II	Comparators	1. Explain 4-bit magnitude comparator with its circuit.
10			IV ECE	II	Multiplexers,	1. Explain 4-to-1 multiplexer. 2.Explain implementation of boolean function using multiplexer.
11			IV ECE	II	Encoder	1.Describe octal to binary encoder with the help of logic diagram and truth table.
12			IV ECE	II	Encoder, Decoder,	1.Explain a 3-to-8 line decoder with the diagram.
13			IV ECE	II	Driver & Multiplexed Display	1. What is Multiplexed Display?
14			IV ECE	II	Half andFull Adders	1.Explain Half Adder with the help of circuit. 2.Explain Full Adder with the help of circuit.
15			IV ECE	II	Subtractors , Parallel Adders	1. Explain the subtractors with the help of logic diagrams. 2.Describe binary prallel adder with block diagram.
16			IV ECE	II	Adder with Look Ahead Carry ,BCD Adder	1.Explain BCD adder with block diagram and truth table.
17			IV ECE	III	Sequential Logic Design: Building blocks like S-R, JK flip-flops	1. What is the function of a flip-flop? 2.Draw a basic flip-flop circuit with NAND gates.
18			IV ECE	III	Master-Slave JK FF, Edge triggered FF	1.What is meant by Edge triggering? 2.Compare JK and SR flip-flops.
19			IV ECE	III	conversions of FF, Ripple and Synchronous counters,	1.Compare JK and T flip-flops. 2. Draw the state diagram of 3-bit binary counter.
20			IV ECE	III	Ring and Johnson counter, UP & DOWN	1.Explain ring counter. 2. Explain UP-DOWN counter with the help of logic diagram.
21			IV ECE	III	counter, Sequence Generator,Shift registers.	1. Explain the working shift register with the help of block diagram. 2.Explain Bidirectional shift register with parallel load.
22			IV ECE	IV	PLDs and Finite state machines: Concept of Programmable logic devices like PAL,PLA ,ROM	1.Describe ROM. 2. Differentiate ROM&RAM.

23			IV ECE	IV	CPLD and FPGA. Logic implementation using Programmable Devices	1.What is the full form of FPGA. 2. Mention some applications of FPGA and CPLD.
24			IV ECE	IV	Introduction, Design of synchronous FSM :Serial Binary Adder Sequence detector ,Parity Bit	1. What is the significance of parity bit in error detection. 2. Explain the working of Serial Binary Adder.
25			IV ECE	IV	Generator pulse train generator. Algorithmic State Machines charts :Introduction	1. Explain the drawing of ASM chart with suitable example. 2.What is the function of Generator pulse train generator.
26			IV ECE	IV	Component of ASM chart, Introductory examples of ASM chart.	1.What are the various components of ASM chart.
27			IV ECE		Revision Class	Revision of Unit-1
28			IV ECE		Revision Class	Revision of Unit-2
29			IV ECE		Revision Class	Revision of Unit-3
30			IV ECE		Revision Class	Class Test-1
31			IV ECE		Revision Class	Class Test-2
32			IV ECE		Revision Class	Class Test-3