

LESSON PLAN

Name of the Institute:		C. V. Raman Polytechnic
Department:		Computer Science & Engineering
Semester/Division/Branch:		3 rd Semester
Subject Name with code:		DIGITAL ELECTRONICS (TH-3)
Total No. of Class (Required):		60
Faculty Name:		SABYASACHI PATRA
Class No.	Brief description of the Topic/Chapter to be taught	Remarks
1	List different number system & their relevance : binary, octal, decimal, Hexadecimal	
2	Study the Conversion from one number system to another	
3	Perform Arithmetic operations of binary number systems.	
4	Represent the Concept of complemently numbers : 1's & 2's complement of Binary numbers.	
5	Perform Subtraction of binary numbers using complementary numbers.	
6	Perform multiplication and division of binary numbers.	
7	Define concept of Digital Code & its application.	
8	Distinguish between weighted & non-weight Code.	
9	Study Codes : definition, relevance, types (BCD, Gray, Excess-3 and ASCII code and applications.	
10	Generation of Error Detection & Correction Code using parity bit.	
11	Learn the Basic Logic gates (NOT, OR, AND, NOR, NAND, EX-OR & EXNOR) – Symbol, function, expression, truth table & example IC nos.	
12	Define Universal Gates with examples & realization of other gates.	
13	Understand Boolean : constants, variables & functions.	
14	Comprehend the Laws of Boolean algebra, State and prove De-morgan's Theorems.	
15	Represent Logic Expression : SOP & POS forms & conversion.	
16	Simplify the Logic Expression/Functions (Maximum of 4 variables) : using	

	Boolean algebra and Karnaugh's map methods.	
17	List different number system & their relevance : binary, octal, decimal, Hexadecimal	
18	Study the Conversion from one number system to another	
19	Perform Arithmetic operations of binary number systems.	
20	Represent the Concept of complemently numbers : 1's & 2's complement of Binary numbers.	
21	What is don't care conditions ? Realisation of simplified logic expression using gates.	
22	Illustrate with examples the above.	
23	Doubt Clearing class for Unit-I.	
24	Doubt Clearing class for Unit-I.	
25	Define a Combinational Circuit and explain with examples. Arithmetic Circuits (Binary).	
26	Truth table & applications of Half-adders, Full-adder & full-Subtractor.	
27	Multiplexure & De-Multiplexure.	
28	Discuss Decoders : definition, relevance, gate level of circuit of simple decoders, Logic circuit of high order encoders, truth table & example IC nos.	
29	Digital Comparator, Seven segment Decoder.	
30	Explain the working of Binary-Decimal Encoder & Decoder.	
31	Doubt Clearing class for Unit-II.	
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33	Define Flip-Flop. Study RS, Clocked RS, D, T, JK, MS-JK flip- flop with logic Circuit and truth tables.	
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36	Define Flip-Flop. Study RS, Clocked RS, D, T, JK, MS-JK flip- flop with logic Circuit and truth tables.	
37	Concept of Racing and how it can be avoided.	
38	Concept of Racing and how it can be avoided.	

39	Doubt Clearing class for Unit-III.	
40	Explain the working of various types of shift registers – ISO, SIPO, PISO, PIPO.	
41	Universal shift registers-Applications.	
42	Types of Counter & applications.	
43	Binary counter, Asynchronous ripple counter (UP & DOWN), Decade counter. Synchronous counter, Ring Counter.	
44	Concept of memories-RAM, ROM, static RAM, dynamic RAM,PS RAM.	
45	Basic concept of PLD & applications.	
46	Concept of memories-RAM, ROM, static RAM, dynamic RAM,PS RAM.	
47	Doubt Clearing class for Unit-IV.	
48	Necessity of A/D and D/A converters.	
49	D/A conversion using weighted resistors methods.	
50	D/A conversion using R-2R ladder (Weighted resistors)network.	
51	A/D conversion using counter method.	
52	A/D conversion using Successive approximate method.	
53	Doubt Clearing class for Unit-V.	
54	Various logic families &categories according to the IC fabrication process.	
55	Various logic families &categories according to the IC fabrication process.	
56	Characteristics of Digital ICs- Propagation Delay.	
57	fan-out, fan-in, Power Dissipation ,Noise Margin.	
58	Power Supply requirement &Speed with Reference to logic families.	
59	Features, circuit operation &various applications of TTL (NAND).	
60	Features, circuit operation &various applications of CMOS (NAND & NOR).	

Signature of the Faculty

Signature of the H.O.D.

