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Dept. of Electronics and Communication Engineering 2025

UE25EC141A - Electronic Principles and Devices (4-0-0-4-4)
Assignment Questions

UNIT III: DIGITAL ELECTRONICS	
Class 1	
1.	Define Universal Gates. List the difference between Basic Gates and Universal Gates with examples
Class 2	
2.	Write the Truth Table Considering X,Y and Z as inputs to state distributive Property for Boolean Algebra
Class 3	
3.	Get the Standard SOP for Logical Expression Y= (A+B') (A'+C') (A'+B') and define the function for the expression.
Class 4	
4.	Realize 3 input XOR gate using i. 2 input NAND gates ii. 2 input NOR gates
Class 5	
5.	Simplify and Realize Y=(A'B+A'+AB)' using Universal NAND Gate
Class 6	
6.	Simplify the following Boolean expression Y= ((A+B'C) (A'+B'+C') (A'+B))'
Class 7	
7.	Write the Truth table and logic expressions for Sum and Carry of a (i) Half adder (ii) Full adder
Class 9	
8.	What are sequential circuits? Mention the key features of sequential circuits.
Class 10	
9.	With the help of logic diagram and characteristic table discuss the working of JK flip-flop.
Class 11	
10.	With the help of logic diagram and table discuss the working of 3 – bit asynchronous down counter.
Class 12	
11.	With the help of logic diagram and table discuss the working of 4 – bit SISO shift register with data initially at "0000" with "1011" to be loaded. Also find the contents of shift register after 5 clock pulses.