Q.P. Code: 16CS506 **R16**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech II Year I Semester Supplementary Examinations Feb-2021

DIGITAL LOGIC DESIGN

(Common to CSE & CSIT)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1		Explain about complements with examples?	**12M**
		OR	
2		Convert the following **i)** $(1AD)_{16}=(\ )_{10}$ **ii)** $(453)_8=(\ )_{10}$ **iii)** $(10110011)_2=(\ )_{10}$ **iv)** $(5436)_{10}=(\ )_{16}$	**12M**

UNIT-II

3		Simplify the Boolean expression using K-MAP $F(A,B,C,D,E)= \Sigma m(0,2,4,6,9,11,13,15,17,21,25,27,29,31)$	**12M**
		OR	
4	**a**	Design the circuit by Using NAND gates F= ABC'+ DE+ AB'D'	**6M**
	b	Design the circuit by Using NOR gates F= (X+Y). (X'+Y'+Z')	**6M**

UNIT-III

5	**a**	Implement the following Boolean function using 8:1 multiplexer $F(A,B,C.D) = \Sigma m\ (0,1,2,5,7,8,9,14,15)$	**6M**
	b	Explain about Decimal Adder?	**6M**
		OR	
6	**a**	What is combinational circuits and explain analysis and design procedure of combinational circuits ?	**6M**
	b	Explain about Priority encoder?	**6M**

UNIT-IV

7	**a**	Explain the Logic diagram of JK flip-flop?	**6M**
	b	Write difference between Combinational & Sequential circuits?	**6M**
		OR	
8	**a**	Explain about Ring counter?	**6M**
	b	Explain about ripple counter?	**6M**

UNIT-V

9	**a**	Write a short notes on Programmable array Logic?	**6M**
	b	Explain about Error correction & Detection Codes ?	**6M**
		OR	
10		Implement the following function using PLA $A(x,y,z)=\Sigma m(1,2,4,6)$, $B(x,y,z)=\Sigma m(0,1,6,7)$ and $C(x,y,z)=\Sigma m(2,6)$	**12M**

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