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

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech II Year I Semester Regular & Supplementary Examinations Nov/Dec 2018

DIGITAL LOGIC DESIGN

(CSE,CSIT)

Time: 3 hours Max. Marks: 60

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

UNIT-I

1		Explain the Binary codes with examples?	12M
		OR	
2	**a**	Convert the following numbers i) $(41.6875)_{10}$ to Hexadecimal number ii) $(11001101.0101)_2$ to base-8 and base-4 iii) $(4567)_{10}$ to base2	7M
	b	Subtract $(111001)_2$ from (101011) using 1's complement.	5M

UNIT-II

3	**a**	Implement the circuit by Using NAND gates F= ABC'+ DE+ AB'D'	7M
	b	Implement the function F= (X+Y). (X'+Y'+Z') by Using NOR gates	5M
		OR	
4		Simplify the Boolean expression using K-map. F(A,B,C,D,E)= Σm(0,1,4,5,16,17,21,25,29)	12M

UNIT-III

5	**a**	Implement the following Boolean function using 8:1 multiplexer. F(A,B,C.D) = Σm (0,1,2,5,7,8,9,14,15)	7M
	b	Explain about Decimal Adder.	5M
		OR	
6	**a**	Design a 4 bit adder-subtractor circuit and explain the operation in detail	7M
	b	Explain the functionality of a Multiplexer.	5M

UNIT-IV

7	**a**	Explain the Logic diagram of JK flip-flop.	7M
	b	Write difference between Combinational & Sequential circuits	5M
		OR	
8	**a**	Construct the PLA using the conversion from BCD code to Excess-3 code	7M
	b	Explain about Hamming Code with example.	5M

UNIT-V

9		Encode the 11-bit code 10111011101 into 15 bit information code.	12M
		OR	
10	**a**	Differentiate among ROM, PROM, DROM, EPROM, EEPROM, RAM.	7M
	b	Explain about memory decoding.	5M

*** END ***