## Enrollment No: \_\_\_\_\_ Exam Seat No: \_\_\_\_\_ C. U. SHAH UNIVERSITY **Summer Examination-2022**

## **Subject Name : Digital Electronics**

Subject	t Code	e: 4TE03DEL1 Branch: B.Tech (CE)	
Semest	er: 3	Date: 26/04/2022 Time: 02:30 To 05:30 Marks:	70
Instruct (1) (2) (3) (4)	ions: Use c Instru Draw Assur	of Programmable calculator & any other electronic instrument is prohibited. actions written on main answer book are strictly to be obeyed. r neat diagrams and figures (if necessary) at right places. me suitable data if needed.	
Q-1		Attempt the following questions:	(14)
	a)	The binary number 11001110 is equal to the decimal number	1
	b)	A. $200$ B. $10$ C. $127$ D. $00$ The binary number for F3A <sub>16</sub> is  A.  111100111010  B.  111100111110    C.  000000111010  D.  000011000100	1
	c)	C. 000000111010 D. 000011000100 The octal number for binary 110111010111010 is A 654521° B 556561° C 156656° D 156566°	1
	d)	Convert the 1CF <sub>16</sub> hexadecimal number to decimal. A. $463$ B. $4033$ C. $479$ D. $4049$	1
	e)	The BCD number for decimal 16 is      A. 00010110    B. 00010000    C. 00010010    D. 11100000	1
	f)	Which are the universal gates?A.NANDB.NORC.ORD.Both A & B	1
	g)	The logical gates are categorized into A. One group B. Two group C. Three group D. Four group	1
	h)	How many terminals do MOS transistors have? A 1 B 2 C 3 D $66$	1
	i)	K map of 3 variables contains $\_$ cells.	1
	j)	If we group four 1's from the adjacent cells of a K-map then the group is called	1
	k)	A.  quad  B.  byte  C.  nibble  D.  word	1
	l)	The chip by which both the operation of read and write performed is	1
	m)	A.D.ROMC. PROMD. EPROMThe data written in flip-flop remains stored as long as	1



		C. A.C. power is supplied D. A.C. power is removed	
	<b>n</b> )	How many types of RAMs are?	1
		A. 1 B. 2 C. 3 D. 5	
Atten	npt any	v four questions from Q-2 to Q-8	
Q-2		Attempt all questions	(14)
	А	What is flip flop? What are the different applications of it? Explain JK	7
		flip flop in detail.	
	В	Explain don't care condition in k-map with example.	7
Q-3		Attempt all questions	(14)
	A	Explain binary to gray code conversion and vice versa with example.	7
	В	What is parity bit? Explain its importance in error detection.	7
Q-4		Attempt all questions	(14)
	А	Minimize the following Boolean function using algebraic manipulation-	7
		F = ABC'D' + ABC'D + AB'C'D + ABCD + AB'CD + ABCD' + ABCD' + ABCD' + ABCD' + AB'CD' + AB'CD	
	D	AB'CD'	_
o =	В	Explain parallel binary adders.	7
Q-5	•	Attempt all questions	(14)
	A D	Compare SOP and POS.	7
0.6	В	Attempt all guagtions	(14)
Q-0	٨	Attempt an questions	(14)
	A D	Explain demultiplexer. What is shift registers? What are the applications of it? Explain any one	7
	D	in detail	/
0.7		Attompt all questions	(14)
ν- <i>γ</i>	Δ	Explain dynamic MOS logic in detail	(14)
	R	Explain dynamic WOS logic in detail.	7
0-8	D	Attempt all questions	(14)
<b>Y</b> -∩	А	Write truth table for AND/OR/NOT/NAND/NOR gate	7
	B	How to implement AND OR NOT gates using NAND gate?	7
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