	Envallme	ent No:		_ Exam Seat No:_				
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	C.U.SHAH UNIVERSITY							
	Summer Examination-2016							
	Subject 1	Name: Digital Ele	ctronics					
	Subject Code: 4TE03DEL1		1	Branch: B.Tech (CE,EC)				
	Semester		:28/04/2016	Time :2:30 To 5:30	Marks :70			
	 Instructions: Use of Programmable calculator & any other electronic instrument is prohibited. Instructions written on main answer book are strictly to be obeyed. Draw neat diagrams and figures (if necessary) at right places. Assume suitable data if needed. 							
Q-1		Attempt the follo	owing questions	:		(14)		
	a)					()		
	b)	Define Byte.						
	c)	Define Nibble.						
	d)	Define Word.						
	e)	What is 2's comp						
	f)	What is 1's compl		$(001)_2$?				
	g)	$(11110001)_2 = ($)8					
	n) i)	$(222)_{10} = ()_8$ Find the 9's comp	lament of (156)					
		$(222)_{10} = ()_{16}$	10111011 (430)	10				
	•	$(BAD)_{16} = ()_{16}$	0					
	1)	$(55)_8 = ()_2$.0					
		$(100)_8 = ()_{16}$						
	n)	$(AA)_{16} = ()_2$						
Atte	mpt any f	four questions fror	n Q-2 to Q-8					
Q-2	(a) (b)	Attempt all quest What is TTL logic State and prove D	e? Explain this lo	ogic in detail. corems with the help of tr	ruth tables.	(14)		

Atter

Q-2

Q-3 **Attempt all questions (14)**

- Prove that $\overrightarrow{ABC} + \overrightarrow{ABC'} + \overrightarrow{AB'C} + \overrightarrow{A'BC} = \overrightarrow{AB} + \overrightarrow{AC} + \overrightarrow{BC}$ (a)
- What is K- Map? Explain the SOP and POS in detail. **(b)**

Attempt all questions (14) Q-4

- Discuss Full Adder with detailed circuit diagram and truth table. (a)
- Implement EX-OR and EX-NOR gate with NAND gates. Justify your answer **(b)** with truth table.



Q-5	Attempt all questions			
	(a)	Simplify with K- Map $F(w, x, y, z) = \sum (0, 1, 2, 4, 5, 6, 8, 9, 12, 13, 14)$		
	(b)	Simplify with K- Map in SOP and POS: $F(A, B, C, D) = \sum (0, 1, 2, 5, 8, 9, 10)$		
Q-6		Attempt all questions		
	(a)	What is 8421 BCD code? Explain in detail and represent the code for 0 to 9 decimal.		
	(b)	Explain 3 to 8 line decoder with circuit and truth table.		
Q-7		Attempt all questions	(14	
_	(a)	Design Full-adder with 3 to 8 line decoder.		
	(b)	What is Master –Slave JK Flip-Flop? Explain it with figure and truth table.		
Q-8		Attempt all questions	(14	
	(a)	Explain 4 bit Asynchronous counter with necessary figures.		
	(b)	Compare RAM and ROM in detail. Describe Applications of RAM and ROM		



