_____ **C.U.SHAH UNIVERSITY Summer Examination-2016**

Subject Name: Microprocessor and its applications

	Subject	Code: 4TE04MPA1	Branch: B.Tech(EC)				
	Semester	r: 4 Date: 10/05/2016	Time: 02:30 To 05:30	Marks: 70			
	Instructio	ons:					
	(1) U	(1) Use of Programmable calculator & any other electronic instrument is prohibited.					
	(2) I	(2) Instructions written on main answer book are strictly to be obeyed.					
	(3) I	Draw neat diagrams and figures (if	f necessary) at right places.				
	(4)	Assume suitable data if needed.					
0-1		Attempt the following question		(14)			
Q-1		Define Vectored interrunt	15	(14)			
	a) h)	Define Machine cycle					
	c)	Define the term bus					
	() d)	Define the term ALU					
	e)	What is Multiplexing?					
	f)	What do you mean by interfacing	<u>e</u> ?				
	g)	Define the term Mnemonics	5				
	h)	What is subroutine?					
	i)	Draw the diagram for microproce	essor based system with bus architect	ure			
	j)	Draw the programming model of	f 8085 microprocessor				
	k)	What is the memory word size re	equired in an 8085 system?				
	l)	Specify the number of registers a	and memory cells in a 128 x 8 memory	y chip			
	m)	If the memory chip size is 2048 :	x 8 bits, how many chips are required	to make up			
		4096 x 8 bits memory?					
	n)	What is the function of ALE sign	nal on 8085 microprocessor				
Atte	empt any f	four questions from Q-2 to Q-8					
Q-2		Attempt all questions		(14)			
	(a)	Enlist various functions perfe	ormed by microprocessor. Explair	in detail 07			
	(1)	microprocessor initiated operatio	ons.				
	(b)	Draw the diagram for memory c	lassification. Explain different types of	of ROMs in 07			
0.1		detail.		(1 4)			
Q-3		Attempt all questions	1 11 - 1 - 1	(14)			
	(a)	Draw the internal architectural	1 block diagram of 8085 micropro	cessor and 07			
	(b)	explain each block in brief.	$\mathbf{n}_{\mathbf{n}}$ the lower order has $\mathbf{A}\mathbf{D}0 = \mathbf{A}\mathbf{D}72\mathbf{\Gamma}$	wayy the 07			
	(D)	timing diagram for the instruction	Ing the lower order bus $AD0 - AD/? L$	Draw the 07			
0 4	I	Attempt all questions	$\Pi WOV A, D.$	(14)			
V-4	' (໑)	Compare memory mapped I/O at	nd I/O mapped I/O	(14) N6			
	(a)	compare memory mapped 1/0 al		00			



	(b)	Design a memory system that contains 2K byte of EPROM, immediately followed by 1K byte of RAM. The EPROM starts at address 0000H and it is implemented by using 1K byte of EPROM. The RWM is implemented using 1K	10
		byte RAM chips. Use decoder and gates (if required) for the interfacing circuit.	
Q-5		Attempt all questions	(14)
-	(a)	Some of the pins of 8085 are listed below .For each pin show whether it is an	06
		input line or an output line and mention its function.	
		1. ALE 2. READY 3. IO / M'.	
	(b)	Explain the following instructions with examples	08
		1. LDA 2. INR 3. ADI 4. XRA	
Q-6		Attempt all questions	(14)
	(a)	What do you mean by addressing modes? Enlist the addressing modes and explain each of them in detail with examples	
	(b)	Two 8-bit numbers are stored in memory locations D000H and D001H. Write an assembly language program to multiply them and store the result in memory locations E000H (LSB) and E001 (MSB).	07
Q-7		Attempt all questions	(14)
c	(a)	Write an assembly language program to add an array of data bytes. Assume that result is more than 8-bit	07
	(b)	Write an assembly language program to find out largest data byte from the given array of data bytes	07
O-8		Attempt all questions	(14)
•	(a)	Explain in detail IC 8255A with block diagram. Also explain in brief its control word.	07
	(b)	Write a note on IC 8254.	07
	``'		



