	Enrollme	ent No):								
		C.U.SHAH UNIVERSITY									
	Winter Examination-2018										
	Subject 1	Subject Name: Microcontrollers & Its Applications									
	Subject Code: 4TE05MCA1			H	Branch: B.Tech (EC)						
	Semester	:: 5	Date: 28 / 11 /	2018	Time: 10:30 To 01:	30	Marks: 70				
	(2) I (3) I	Jse of instruct Oraw n	tions written on r	nain answer b figures (if ne	ny other electronic in book are strictly to becessary) at right pla	e obeyed.	-				
Q-1	Attempt the following questions: a) What is the function of ALE pin in 8051 microcontroller? b) What is the function of Rx pin in 8051 microcontroller? c) How many clock signals are possessed by each T state in machine cycle of 8051							(14)			
	d) e) f) g)	microcontroller? How many timer registers possessed by 8051 microcontroller? Which oscillator circuit is used by 8051 microcontroller? Which I/O port of 8051 microcontroller has address bus alternate function only? Which I/O port of 8051 microcontroller has different individual alternate functions?									
	h) i)	State size of SP register. Which source of pulses used when we used timer/counter circuit used as a counter?									
	j) k) l) m)	Which SFR contains C/T' bit? Which bit of PCON SFR must be set to double the baud rate? Which instruction is used for external RAM data move operation? Write a single instruction to increment data value stored in register A by one. Write a single instruction to exchange lower and upper nibble of data byte in									
Atte	n) mnt anv f	regist	e a single instructor ter A. uestions from Q		ange lower and up	per nibbl	e of data byte in				
Q-2	_	_	mpt all question	_				(14)			
	a)b)	-	ain in brief with oribe IE and IP SF	-	ternal architecture cams.	of 8051 m	icrocontroller.	07 07			

Q-2 Q-3 **Attempt all questions (14)** a) Draw and explain internal circuitry of Port-1 and Port-3. **07** b) Draw the timer/counter logic circuit. Explain in detail with diagrams timer modes **07** 1 and 2. **Attempt all questions Q-4 (14)** a) Explain in detail with examples different addressing modes. **06 b)** Write an ALP to find odd and even numbers from the given array of 8-bit data. **08**



Q-5		Attempt all questions									
	a)	Explain in detail with examples different branch instructions.									
	b)) Write an ALP to find out positive and negative numbers from the given array of									
		8-bit data.									
Q-6		Attempt all questions (14									
	a)	Explain in detail with diagram internal RAM organization of 8051 microcontroller.	07								
	b)	Write an ALP to add two 16-bit data. Assume result is more than 16-bit									
Q-7	Í	Attempt all questions (14									
	a)	Explain in detail with diagram different address range used in different jump and 06									
		call instructions.	08								
	b)	Write a C program for 8051 to transfer the messages "YES" and "NO" serially at									
		4800 baud rate continuously. Use 8-bit data and 1 stop bit.									
Q-8		Attempt all questions (14)									
•	a)	D II GGOV IDGOVIGED III II									
	b)	Draw the diagram of interfacing LCD with 8051 microcontroller. Write an ALP to display "WELCOME" on LCD.	08								

