Seat No.:			
		GUJARAT TECHNOLOGICAL UNIVERSITY	
		BE - SEMESTER-V (NEW) - EXAMINATION - SUMMER 2016	
Su	ıbied	ct Code:2150306 Date:09/05/2016	
	•	ct Name:Microcontroller & Interfacing (Biomedical)	
	_	02:30 PM to 05:00 PM Total Marks: 70	`
		ions:	,
1113		1. Attempt all questions.	
		2. Make suitable assumptions wherever necessary.	
		3. Figures to the right indicate full marks.	
Q.1	(a)		<b>07</b>
	<b>(b)</b>	Explain different addressing modes of 8051 microcontroller.	<b>07</b>
Q.2	(a)	Explain the following instruction with its meaning.	
		(1) DA A	
		(2) MUL AB	
		(3) DIV AB	07
		(4) RETI	U1
		(5) SETB	
		(6) CLR	
	<i>-</i>	(7) MOV @Ri,A	
	<b>(b)</b>	(i) Explain in detail the structure and operation of port P0 of the 8051 microcontroller.	04
		(ii) Why are program counter and stack pointer 16-bit registers?	03
		OR	
	<b>(b)</b>	Write short note on following SFR. (1) PCON, (2) TMOD	<b>07</b>
		Prepare an ALP (Assembly language program) to generate continuous square wave	07
Q.3	(a)	of 50% duty cycle.	U7
	<b>(b)</b>	Explain baud rate in detail.	07
	(~)	OR	0.
0.0	( )	Write a program to toggle pin P3.4 every 1 msec continuously using interrupt	07
Q.3	(a)	service routine.	
	<b>(b)</b>	Design and explain the 8051 microcontroller connection to RS232 with neat	<b>07</b>
	<b>(b)</b>	diagram.	
Q.4	(a)	Write a program to multiply two 16 bit numbers and display the result at output	<b>07</b>
		PORT1 and PORT2.	
	<b>(b)</b>	Interface the 8051 microcontroller with DS12887 RTC.	<b>07</b>
	( )	OR	0=
Q.4	(a)	Describe the seven segment numeric display technique in detail.	07
	<b>(b)</b>	Five hex numbers are stored in RAM location 55H onwards. Write an ALP to sort	07
<b>1</b> 5	(a)	the numbers in ascending order and save it to memory location AAH.  Explain in detail serial communication and the instruction used for the same.	07
Q.5	(a)	Write an ALP to read the data from P2 and store them to memory location 20H	07
	<b>(b)</b>	continuously. XTAL = 11.0592 MHz. Baud rate at 4800	U/
		OR	
		List out steps of using interrupt technique in 8051 assembly language	07
Q.5	(a)	programming.	٠,
		Design 8051 connection to LCD. Write commands to display the message 'ALL	07
	<b>(b)</b>	THE BEST'.	