Seat No.:	Enrolment No

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI • EXAMINATION - SUMMER • 2015

	•	Code:162002 Date:04/05/201 Name:MICROPROCESSORS AND MICROCONTROLLERS	.5
Tir	•	0.30AM-01.00PM Total Marks: '	70
11130	1. 2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Explain the specific features of 8051 microcontroller. Draw and explain Architecture of 8051 microcontroller.	07 07
Q.2	(a)	Describe Internal RAM(Random Access Memory) and ROM(Read Only Memory) with figure.	07
	(b)	Explain serial data communication. OR	07
	(b)	Write an assembly language program to transfer the block of data from memory location 20H-30H to External memory location 1020H-1030H.	07
Q.3	(a)	What do you mean by interrupt? Explain types of interrupt , interrupt service routines and interrupt vector table.	07
	(b)	Explain Branching instruction JUMP and CALL with suitable example. OR	07
Q.3	(a) (b)	Describe addressing modes of 8051 microcontroller with proper example. Write an 8051 C program to toggle the bits of P1 ports continuously with 250ms delay. Assume XTAL=11.0592Mhz.	07 07
Q.4	(a)	Write an 8051 C program to convert packed BCD 0x29 to ASCII and display the bytes on port P1 and P2.	07
	(b)	Write an 8051 C program to convert 11111101(FD hex) to decimal and display the digits on P0,P1 and P2. OR	07
Q.4	(a)	Write a C program to send out the values 44H serially one bit at a time via P1.0.	07
	(b)	The LSB should go out first. Explain keyboard interfacing with 8051 and also draw flow chart for detection and identification of key activation.	07
Q.5	(a) (b)	Describe interfacing of 8051 with DC motor and PWM. With the neat diagram explain how LCD display can be interfaced to microcontroller 8051.	07 07
0.5	(c)	OR	07
Q.5	(a) (b)	Explain serial communication protocols. Explain PCON and SCON registers in details.	07 07
