Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- VI• EXAMINATION-SUMMER 2015

	•	Code:162402 Date: 04/05/20 Name: MICROCONTROLLER FOR POWER ELECTRONICS	15
Tir	ne:10	0.30-01.00 Total Marks:	70
	1. 2. 3.	· · · · · · · · · · · · · · · · · · ·	
Q.1	(a) (b)	Give difference between microcontroller and microprocessor. Explain Random Access Memory of 8051 microcontroller with figure.	07 07
Q.2	(a) (b)	Draw and Explain Internal Block Diagram of 8051 microcontroller. Explain SFR (Special Function Register) and PSW(Program Status Word). OR	07 07
	(b)	Explain various addressing modes of microcontroller with suitable examples.	07
Q.3	(a)	Explain MOV, MOVC and MOVX instruction of 8051 microcontroller with suitable example.	07
	(b)	Explain Assembler directives of 8051 microcontroller. OR	07
Q.3	(a) (b)	What is the stack? Explain PUSH and POP instruction with suitable example. Write an assembly language program to the contents of RAM location 50H to 5FH are added together and sum is saved in RAM location 70H and 71H.	07 07
Q.4	(a)	Write an assembly language program to transfer the block of data from memory location 20H -30H to external location 1020H-1030H.	07
	(b)	Write an Assembly language program to generate square wave of 50% duty cycle (with equal portion of high and low) on port P1.5 bit. Use timer 0 to generate time delay.	07
		OR	
Q.4	(a)	Write a 8051 C program to toggle all the bits of port P0 and P2 continuously with 250 ms Delay. Assume XTAL =11.0592 Mhz.	07
	(b)	Write an 8051 C program to convert packed BCD 0x29 to ASCII and display the bytes on port P1 and P2.	07
Q.5	(a) (b)	Explain keyboard interfacing with 8051 microcontroller. Explain LCD interfacing with 8051 microcontroller. OR	07 07
Q.5	(a)	Write short notes on serial data communication.	07
χ	(b)	What is an interrupt?. Explain types of interrupt, interrupt service routines and interrupt vector table.	07
