Seat No.:	Enrolment No.
Deat 110	12111 Official 140

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) - EXAMINATION – SUMMER 2016

Subject	Code	2152409				Date:21/05/2016
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Subject Name: Microcontroller for Power Electronics

Time:02:30 PM	to 05:00 PM	Total Marks: 70
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Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

Q.1	(a) (b)	Draw and explain the internal block diagram of 8051. Explain different addressing modes of 8051 microcontroller.			
Q.2	(a) (b)	Compare various features of microprocessor and microcontroller. Explain SFR (Special Function Register) and PSW (Program Status Word). OR			
	(b)	Explain Assembler directives of 8051 microcontroller.	07		
Q.3	(a) (b)	Define bits of SCON, TCON AND PCON registers. Explain the interfacing of 8051 with external ROM.	07 07		
Q.3	(a)	OR Explain the execution of PUSH & POP instructions with respect to stack Operations.	07		
	(b)	Describe various types of Jump and Loop instructions with examples.	07		
Q.4	(a) (b)	Give Pin description of 8051 chip. Explain Random Access Memory of 8051 microcontroller with figure. OR	07 07		
Q.4	(a) (b)	Explain any four logical instructions with example. What is a subroutine? Explain its use in 8051 with a suitable example.	07 07		
Q.5	(a)	What is interrupt? Which are the various interrupt sources available in 8051? State vector locations of these interrupts.	07		
	(b)	Explain keyboard interfacing with 8051 and draw flow chart to detect and identify key activation.	07		
		OR			
Q.5	(a)	Explain concept of serial communication. List out various standards of Serial communication.	07		
	(b)	State why delays are required? Explain means to provide software delay.	07		
