## **GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-VI- EXAMINATION - SUMMER 2016** 

Su	bject	Code:162402	Date:21/05/2016	
Ti	me: 1 tructio	Name:Microcontrollers for Power Electronics 0:30 AM to 01:00 PM ons: Attempt all questions.	Total Marks: 70	
	2. 3.	ı v		
Q.1	(a) (b)	Draw internal block diagram of basic 8051 microcontroller. Explain different addressing modes of 8051 with example.		)7 )7
Q.2	(a) (b)	Discuss PSW register in detail. List and explain I/O ports of 8051 and their functions.  OR		)7 )7
	<b>(b)</b>	Describe various types of memory and their organization.	0	7
Q.3	(a) (b)	Explain 8051 timer with related SFRs and any one of its operation Explain the execution of PUSH & POP instructions with respect Operations.	_	)7 )7
Q.3	(a) (b)	OR  Describe various types of Jump and Loop instructions with example.  Explain logical instructions of 8051 with example.	•	)7 )7
Q.4	(a) (b)	Give Pin description of 8051 chip. State and explain assembler directives of 8051.		7 7
Q.4	(a) (b)	OR What do you mean by interrupt in 8051? Discuss various types and explain each of them. What is a subroutine? Explain its use in 8051 with a suitable example.	-	)7 )7
Q.5	(a) (b)	Write a 8051 C program to produce waveform of 1 KHz freque What are the functions of Arithmetic Logic Unit? Draw a neat of ALU showing all these functions.  OR	-	)7 )7
Q.5	(a)	Explain keyboard interfacing with 8051 and draw flow chart to	detect and 0	7
	<b>(b)</b>	Identify key activation.  Explain concept of serial communication. List out various stand Serial communication.	ards of 0	7

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