

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) - EXAMINATION – SUMMER 2018

Subject Code:2150907

Date:30/04/2018

Subject Name:Microprocessor and Microcontroller Architechture & Interfacing

Time:02:30 PM to 05:00 PM

Total Marks: 70

Instructions:

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

		MARKS
Q.1	(a) Explain all the bits of PSW register.	03
	(b) Explain demultiplexing of address/data lines in 8085.	04
	(c) Draw & explain physical structure of port 0.	07
Q.2	(a) Differentiate between RET & RETI, SJMP & LJMP instruction in 8051.	03
	(b) Explain the assembly directives supported by 8051 assembler.	04
	(c) Draw & explain the timing diagram of instruction MOV C, A in 8085.	07
	OR	
	(c) Draw & explain interfacing of seven segment LED with 8051.	07
Q.3	(a) What are tri-state devices & why they are essential in bus oriented system?	03
	(b) Discuss the RAM memory space allocation in 8051.	04
	(c) Write an assembly program to add two 16 bit numbers.	07
	OR	
Q.3	(a) Write steps required to develop an assembly language program.	03
	(b) State the function of ALE & TRAP pins in 8085	04
	(c) Write an assembly program to find factorial of a number.	07
Q.4	(a) List the alternate functions of all the ports of 8051.	03
	(b) Find the control word to be loaded in TH0 & TL0 to generate a time delay of 10 μ s. (Assume 12 MHz clock)	04
	(c) Write a C program to generate a square wave of frequency 10 KHz on pin P0.1	07
	OR	
Q.4	(a) Explain how priorities of interrupts can be set & changed in 8051.	03
	(b) Explain the instructions DJNZ & SWAP with reference to 8051.	04
	(c) Write a C program to toggle all the bits of port 1 with a delay of 250 ms.	07
Q.5	(a) Why C programming is preferred to assembly programming?	03
	(b) List the C data types available in 8051.	04
	(c) Explain the role of SCON & SBUF in serial communication.	07
	OR	
Q.5	(a) Compare Von Neuman & Harvard architecture.	03
	(b) Write down steps to be performed during execution of interrupt in 8051.	04
	(c) Write a short note on different types of memory.	07
