

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- V (New) EXAMINATION – WINTER 2019****Subject Code: 2150707****Date: 04/12/2019****Subject Name: Microprocessor and Interfacing****Time: 10:30 AM TO 01:00 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) How can you determine that Microprocessor is an 8, 16 or 32 bit	03
	(b) Discuss the programming model of 8085 μ P with the help of suitable diagram.	04
	(c) Draw and Explain the pin diagram of 8085 microprocessor.	07
Q.2	(a) Explain the role of clock in Microprocessor.	03
	(b) List all the interrupt signals of 8085 microprocessors.	04
	(c) List and specify the various features of microprocessor, memory and I/O devices including concepts of system bus.	07
OR		
	(c) Describe basic Machine Cycle used in 8085. Draw Timing Diagram for OUT instruction	07
Q.3	(a) Calculate the address lines required for 8K-byte memory chip.	03
	(b) Explain One byte, Two byte, Three byte instruction.	04
	(c) Explain 8085 Programming Model and Flag Register.	07
OR		
Q.3	(a) Calculate the number of memory chips needed to design 8K-byte memory if the memory chip size is 1024×1 .	03
	(b) Describe the different types of instruction sets.	04
	(c) Discuss various types of addressing modes of 8085.	07
Q.4	(a) Explain the Functions of following instructions:	03
	1) RAL	
	2) LDAX	
	3) ADC	
	(b) The memory location 2070H holds the data byte F2H. Write instructions to transfer the data byte to the accumulator using three different opcodes: MOV, LDAX, and LDA.	04
	(c) Write assembly language program to do multiplication of two numbers . Specify the memory location of each and every instruction and also draw	07

OR

- Q.4** (a) Explain the Functions of following instructions: **03**
- 1) RLC
 - 2) LHLD
 - 3) SBB
- (b) Register D contains 72H. Illustrate the instructions MOV and STAX to copy the contents of register B into memory location 8020H using indirect addressing. **04**
- (c) Write assembly language program to **do division of two numbers**. Specify the memory location of each and every instruction and also draw flowchart. **07**
- Q.5** (a) Draw architecture of SUN SPARC **03**
- (b) Describe the importance of bus interface unit (BIU) and execution unit (EU) an 8086 microprocessor. **04**
- (c) Write assembly language program to **do addition of two 8-bit numbers with carry**. Specify the memory location of each and every instruction. **07**

OR

- Q.5** (a) Draw architecture of ARM Processor. **03**
- (b) Draw and Explain the block diagram of 8086. **04**
- (c) Write assembly language program to **count number of 1's in given 8-bit number**. Specify the memory location of each and every instruction. **07**
