Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2181006 **Date: 29/04/2017**

Subject Name: Advance Microprocessor(Departmental Elective - III)

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.**

Q.1	**(a)**	Discuss 8086 Architectural block diagram.	**07**
	(b)	Explain the maximum mode and minimum mode configuration and discuss the signals involved in it.	**07**
Q.2	**(a)**	Describe the Interrupt mechanism of 8086.	**07**
	(b)	What do you understand by Address Decoding? List various techniques of Address Decoding for Memory interfacing using 8086 and explain any two among them.	**07**
		OR	
	(b)	Explain the following instructions: CMC, HLT, INS, LEA, MOVS and LODS.	**07**
Q.3	**(a)**	What are functions of NMI, READY, RESET, Qs_0 and Qs_1 pins?	**07**
	(b)	Write an 8086 assembly language program to transfer an array of 10 numbers to another location and store in reverse order.	**07**
		OR	
Q.3	**(a)**	What are different addressing modes in 8086? Explain each one with suitable example.	**07**
	(b)	Write an 8086 program to add only five biggest numbers from the block of ten 16-bit numbers defined as ARRAY_BLOCK. Store your answer in DS as SUM.	**07**
Q.4	**(a)**	What is memory segmentation? Explain the memory management in 8086.	**07**
	(b)	Write program to find the numbers of positive numbers and negative numbers from the given array of 10 signed numbers.	**07**
		OR	
Q.4	**(a)**	Discuss general bus operation in 8086.	**07**
	(b)	Design a memory interfacing for interfacing a 4 KB RAM and 8 KB EPROM with 8086 minimum mode configuration, show schematic along with memory map.	**07**
Q.5	**(a)**	Write an assembly language program to multiply two 16 – bit numbers and store the results in consecutive memory locations.	**07**
	(b)	Explain difference between logical shift and arithmetic shift in detailed also discuss the 8086 flag register.	**07**
		OR	
Q.5	**(a)**	Write a short-note on Hyper-Threading Technology employed in Pentium Processors.	**07**
	(b)	Write a short note on assembler; also discuss any three directives and operators.	**07**

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