Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII (OLD) EXAMINATION – WINTER 2018

Subject Code: 181104 **Date: 15/11/2018**

Subject Name: Advanced Microprocessors

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.**

Q.1	**(a)**	**Answer the following questions:** **1)** What is the maximum memory addressing capacity of 8086 microprocessor? **2)** What are assembler directives? **3)** How the physical address is generated in 8086 microprocessor? **4)** What is the size of data bus in 8086 microprocessor? **5)** What does u mean by instruction prefix in 8086 microprocessor? **6)** Which are pointers present in 8086 microprocessor? **7)** Explain the significance of G bit in 80386 microprocessor.	**07**
	(b)	Explain following instructions/assembler directives. (A) XLATB (B) TEST (C) ORG (D) AAA (E)IDIV (F)DQ (G) DAA	**07**
Q.2	**(a)**	Draw and explain the architecture of 8086 microprocessor.	**07**
	(b)	Enlist the strings related instructions of 8086 microprocessor. Explain with example.	**07**
		OR	
	(b)	Explain with diagram, maximum mode configuration of 8086 microprocessor.	**07**
Q.3	**(a)**	What is segmentation? List the various segment registers in 8086 microprocessor and explain their role.	**07**
	(b)	Write an 8086 assembly program to convert a 4 digit Hexadecimal number stored in memory in to equivalent BCD number.	**07**
		OR	
Q.3	**(a)**	Enlist the general purpose registers in 8086 microprocessor and explain their special functions.	**07**
	(b)	Write an 8086 assembly program to multiply 32 bit two numbers.	**07**
Q.4	**(a)**	List the four major processing units in an 80286 microprocessor and briefly describe the function of each.	**07**
	(b)	Write down the steps followed by 8086 when INT 23H instruction is executed. Briefly explain the different ways to detect and respond overflow in 8086.	**07**
		OR	
Q.4	**(a)**	Explain the meaning and use of Selector and GDTR with proper example.	**07**
	(b)	How are tasks in an 80386 system protected from each other? How can operating system kernel procedures and data be protected from access by application programs in an 80386 system?	**07**
Q.5	**(a)**	Briefly explain virtual 8086 mode of 80386.	**07**
	(b)	What are privilege levels? What is their use? Give the role of call gates.	**07**
		OR	
Q.5	**(a)**	List and explain in brief about advanced features of Pentium processor.	**07**
	(b)	Describe three major improvements that the 80486 processor has over 80386 processor and three major improvements that the Pentium processor has over 80486 processor.	**07**

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