Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER V • EXAMINATION – WINTER – 2012

Subject code: 150701 **Date: 11-01-2013**

Subject Name: Advance Processors

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 in brief. 1. How does 8086 architecture make the instruction fetching and instruction execution independent using prefetch queue? Explain. 2. Compare the minimum and maximum modes of the 8086.	**06**
	(b)	Answer the following questions. 1. What do you mean by addressing modes? List the 8086 addressing modes and explain any two of them with example. 2. Explain the instruction template (format) with an example giving purpose and meaning of each field.	**08**
Q.2	**(a)**	Explain the maximum mode 8086 microprocessor system with the help of diagram.	**07**
	(b)	Write an 8086 program to check whether given 16-bit number is odd or even? Print the appropriate message.	**07**
		OR	
	(b)	Write an 8086 program to search a given number in an array of N (<10) numbers. Store the position of number in AL register if found otherwise store -1 in AL register.	**07**
Q.3	**(a)**	Describe the following. 1. Role of Index registers in string instructions. 2. Use of direction flag in string instructions.	**07**
	(b)	Answer the following. 1. Define a stack of 20 words and show its initialization. 2. Discuss the working of PUSH instruction.	**07**
		OR	
Q.3	**(a)**	Answer the following. 1. Compare the procedures and ISRs. 2. Interrupt priorities in 8086.	**07**
	(b)	Answer the following. 1. Explain the working of AAM instruction. 2. Explain the working of intersegment CALL instruction with example.	**07**
Q.4	**(a)**	What is macro? How can you define and call macros? Give an example of macro with parameter.	**07**
	(b)	Explain the various types of segments supported by the 80386 processor.	**07**
		OR	
Q.4	**(a)**	List the steps to be performed by the 8086 when interrupt comes? Give reason for each of these steps.	**07**
	(b)	Explain the following. 1. Confirming code segments 2. Meaning and use of TLB	**07**
Q.5	**(a)**	Explain the various types of exceptions supported by the 80386.	**07**
	(b)	Explain the architecture of the Pentium processor with diagram.	**07**
		OR	
Q.5	**(a)**	Give and explain the format of trap and interrupt gates.	**07**
	(b)	Explain the structure of the 80386 paging system with proper diagram.	**07**

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