GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VIII • EXAMINATION – SUMMER 2013

Subject Code: 181104   **Date: 13/05/2013**

Subject Name: Advanced Microprocessors

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)**	What is the role of BIU and queue inside 8086? If DS=2000, CS=1000 and IP = 0100 then what will be physical address of instruction.	**07**
	(b)	Why the memory of 8086 divided into odd and even bank? Explain the process of accessing a word starting at odd and even address.	**07**
Q.2	**(a)**	Write five addressing mode with example of its physical address generation.	**07**
	(b)	Write following 8086 instruction description (i) IRET (ii) RCL AX,CL (iii) LOOPE (iv) SCASB and directives description of (i) ORG (ii) DT (iii) PTR	**07**

OR

	(b)	Write assembly language program using 8086 instruction to multiply two arrays of 16 bit numbers and store result in data segment. Write suitable comments.	**07**
Q.3	**(a)**	What is the difference between minimum and maximum mode of 8086 and which pin changes their function in maximum mode with respect to minimum mode explain any three signals.	**07**
	(b)	Design interface of 8086 in minimum mode with 4 Kbyte ROM and 8 Kbyte RAM, end address of ROM is FFFFF h while RAM starting address is 00000 h.	**07**

OR

Q.3	**(a)**	Design an interface between 8086 and input port to read the status of switch sw_1 to sw_8 and output port with 8086.Display number of key pressed at 7-segment display through output port. The input port address is 08h and output port address is 0Ah. Write program for that.	**07**
	(b)	Explain block diagram of clock generator 8284 in brief.	**07**
Q.4	**(a)**	Explain following interrupt type, type 0, 1, 2 and where starting address of ISR of their interrupt are stored in IVT.	**07**
	(b)	Explain how 8086 hardware interrupts INTR handled and responded and what happen if two or more interrupt occur at same time.	**07**

OR

Q.4	**(a)**	Explain 80186 block diagram and also list out 80286 additional features in brief.	**07**
Q.4	**(b)**	What is descriptor table? How descriptor is used to access memory location explain with example.	**07**
Q.5	**(a)**	Explain memory paging mechanism in 80386.	**07**
	(b)	Write types of descriptors and draw and explain segment descriptor format.	**07**

OR

Q.5	**(a)**	Write basic features of 80486 and Pentium processor.	**07**
	(b)	What is Program Invisible Registers explain its uses.	**07**

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