Seat No.:		: Enrolment No	
		GUJARAT TECHNOLOGICAL UNIVERSITY	
		BE - SEMESTER-VIII (OLD) - EXAMINATION – SUMMER 2017	
Subject Code:181104		t Code:181104 Date:29/04/2017	
Su	bjec	t Name: Advanced Microprocessors	
Ins	tructi		
		Attempt all questions.Make suitable assumptions wherever necessary.	
		Figures to the right indicate full marks.	
Q.1		Write a brief note with necessary diagrams on Real Mode Addressing of x86 Family.	07 07
	(b)	What are Assembler Directives? List and explain use of any five assembler directives with small examples.	U7
Q.2	(a)	Explain following Instructions with appropriate example.	07
	` /	(1) XCHG (2) LEA (3) PUSH	
		Discuss Results after Execution of following instructions.	
		(1) SBB [DI],AL (2) CMP AX,2000H (3) MOV AL,[BX+2] (4) DIV CL	
	(b)	Differentiate Software-generated and hardware-generated Interrupts. Explain Software-	07
	()	generated interrupts in detail.	
		OR	
	(b)	Differentiate Macro and Subroutines with programming example of each for x86	07
		family processors.	
Q.3	(a)	Explain 8086 Memory Interfacing and the signals used in it. Show with schematic how	07
		the two memory banks are separated?	
	(b)	Design and draw schematic of interfacing 1Megabyte Static RAM with 8086 using	07
		memory banks. OR	
Q.3	(a)	Briefly discuss the Instructions used in IO for x86 family of processor. Differentiate	07
	()	Isolated IO with Memory Mapped IO.	٠.
	(b)	Use a PLD to decode a 8-bit port address, now use 3to8 decoder to decode the same	07
		address for x86 IO interfacing. Make use of the required control signal for IO access.	
		Write a sample program to access the port designed by you.	
Q.4	(a)	Explain how hardware interrupts are processed for x86 processors. Explain the use of	07
		Active High INTR and Active Low INTA for interrupt processing using timing	
	(1.)	diagram and sample schematic.	07
	(b)	Write an assembly language program that will read a key press and display the pressed key on a 7-segment LED Display. Draw the schematic of the hardware you assumed	U7

OR

(b) Write a program to compare two text strings stored in memory and at the end of string store 00 if they are exactly the same otherwise store the number of the character from

Q.4 (a) Compare 80286 with 8086 relating the advancement made in the 80826. Explain 07

Q.5 (a) Explain Memory Interleaving showing how it will improve the speed of the system and 07

for the said program.

Virtual Memory Machine.

where the string differs from each other.

the problems associated with it. **(b)** Write a note on Virtual 8086 Mode.

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Q.5 (a) Write a note on Descriptor Tables used in x86 family of processor.

07

(b) Explain Pentium4 and Core2 Processors in brief discussing advancements as compared to previous processors in x86 Family.
