Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – V (NEW) EXAMINATION – WINTER 2015

Subject Code: 2152006 **Date:08/12/ 2015**

Subject Name: Basic of Micro Computer System

Time:10:30am to 1:00pm **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)**	Draw and explain the block diagram of 8085 microprocessor architecture.	**07**
	(b)	Compare Instructions: (1) SUB A and MVI A,00H (2) SUB B and CMP B	**07**
Q.2	**(a)**	Define Instruction cycle, Machine cycle and T-State. List out Machine cycles of 8085.	**07**
	(b)	Using Diagram illustrate logic pin out of the 8085 microprocessor.	**07**
		OR	
	(b)	A set of current reading is started in memory location starting at XX50H. The end of the data string is indicated by the data byte 00H. Add the set of readings, the answer may be larger than FFH. Display the entire sum at PORT-1 and PORT-2 or state the answer in the memory location XX70H and XX71H.	**07**
Q.3	**(a)**	Draw the pin diagram of 8051 microcontroller and explain its port structure.	**07**
	(b)	Draw and explain Timing diagram for OUT instruction.	**07**
		OR	
Q.3	**(a)**	Comparison between memory mapped I/O and I/O mapped I/O.	**07**
	(b)	Explain Hardware Interrupt structure in 8085 microprocessor.	**07**
Q.4	**(a)**	List out addressing modes of 8051 and explain any two modes in detail.	**07**
	(b)	(1) List the JUMP and CALL Instructions. Describe Conditional Jump in detail.	**04**
		(2) Explain following terms. 1) SWAP A, 2) RL A, 3) RLC A	**03**
		OR	
Q.4	**(a)**	Explain TCON and TMOD register with its bit pattern.	**07**
	(b)	List out Arithmetic and Byte Level Logical Instruction. Explain any two instructions from both.	**07**
Q.5	**(a)**	Write an ALP in 8051 to generate a square wave of frequency 5 KHz on pin P2.7 using timer-1 in interrupt mode Assume crystal frequency as 11.0592 MHz.	**07**
	(b)	What is Stack and Stack pointer? Explain Stack operation with use of PUSH and POP Instructions.	**07**
		OR	
Q.5	**(a)**	Program to convert 8-Bit binary number to its equivalent BCD.	**07**

(b) (1) Explain Time-Delay for 8051 microcontroller. **04**

(2) Find the time delay generated by the following routine if the XTAL=22MHz. **03**

```
HERE  : MOV R0,#200
AGAIN : DJNZ R0,AGAIN
        RET
```

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