Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER–IV EXAMINATION – WINTER 2015

Subject Code:X40901 **Date:18/12/2015**

Subject Name: Microprocessor and Interfacing

Time: 02:30pm to 05:00pm **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)**	Explain Block diagram of Internal Architecture of 8085 μP with necessary figures.	**07**
	(b)	Explain 8255A PPI and its application as an interface to 8085 μP.	**07**
Q.2	**(a)**	With the help of appropriate examples explain the instructions which are included in 'LOGICAL' group.	**07**
	(b)	Explain different types of flags with its application in 8085 Microprocessor.	**07**
		OR	
	(b)	Explain data storage instructions of 8085.	**07**
Q.3	**(a)**	Briefly explain following : 1. Assembler 2. Monitor program 3. Interpreter	**07**
	(b)	Explain different kind of interrupts of 8085 μP.	**07**
		OR	
Q.3	**(a)**	Give comparison between (CALL and RET) and (PUSH and POP) instructions.	**07**
	(b)	Make control word , when the ports of Intel 8255 are defined as follows: 1. Port A as an output port. 2. Mode of Port A-mode 1 3. Port B as an input port 4. Mode of Port B-mode 1. Briefly explain operation under this control word.	**07**
Q.4	**(a)**	Sketch the block diagram of successive approximation type A to D converter and explain the Conversion process of 8 bit converter.	**07**
	(b)	Write a program to add the content of memory locations D000H and D001H. And do the AND of the result with the data stored in memory location D002H. Store the final result at memory location D003H.	**07**
		OR	
Q.4	**(a)**	Explain binary ladder R-2R type Digital to Analog 8-bit conversion process with necessary diagrams.	**07**
	(b)	Write an assembly language program to mask the upper nibble of an 8 bit number store at memory location E000H. Do the OR of result with data stored in memory location E001H. After complementing the result store that at memory location E002H.	**07**
Q.5	**(a)**	Draw functional pin out diagram of 8279 Keyboard & Display controller & Explain function of each pin.	**07**
	(b)	How SID and SOD are using for interfacing purpose. Explain in detail.	**07**
		OR	
Q.5	**(a)**	Write a short note on 8251 USART.	**07**

(b) Explain signed and unsigned number operation in 8085 μP. What is limitation of signed number operation. Also explain 2's complement method. **07**

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