07

GUJARAT TECHNOLOGICAL UNIVERSITY PDDC - SEMESTER-IV EXAMINATION - SUMMER 2016

Subject Code:X40901 Subject Name: Microprocessor & Interfacing Time:10:30 AM TO 01:00 PM

Date:26/05/2016

Total Marks: 70

Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.
- (a) i) Some of the pins of 8085 are listed below. Mention 05 0.1 function of each pin.

1)	INTR	4)	ALE
2)	READY	5)	SID

- 3) HLDA
- ii) Give the function of instruction register and 02 instruction decoder
- (b) Explain the following instructions.

1) XCHG 5) RIM 2) PCHL 6) RRC 3) DAD 7) SPHL 4) STA

- 0.2 (a) Which are the addressing modes available in 8085? 07 Explain each of them. Also give at least two examples of each.
 - (b) Draw and explain the timing diagram of LDA,2000H 07 instruction with necessary control signal.

OR

- (b) What is stack? List all the instructions which deals with 07 stack and explain any two of them.
- Q.3 (a) Write a program to covert the binary number stored at 07 2000H into it's equivalent BCD number. Store the result from memory location 2100H.
 - (b) Write a program to sort given 10 numbers from memory 07 location D000H in the ascending order.

OR

- Design a BCD UP-DOWN counter to count continuously 07 Q.3 (a) from 00 to 99 and back from 99 to 00 with a delay of 1 second. Assume operating frequency of 8085 is 3 MHz.
 - (b) Write a program to find the number of negative numbers in 07 the array. Assume the array begins at memory location C100H and memory location C000H consists of the size of the array. Store the result at memory location D000H.
- **Q.4** (a) Write a short note on: Memory mapping V/s I/O mapping 07
 - (b) Explain the hardware Interrupts supported by 8085. 07

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- Q.4 (a) Design a microprocessor system for the 8085 07 microprocessor such that it should contain 16 Kbyte of EPROM and 4Kbyte of RAM using two 8 Kbyte EPROMS (2764) and two 2 Kbyte RAMs (6116).

Q.4 (b) Explain interrupt acknowledgement cycle in 8085. 07

- Q.5 (a) Discuss the organization and architecture of 8255 07 programmable peripheral interface IC with a functional block diagram.
 - (b) Explain operating principle of successive approximation 07 type ADC.

OR

- Q.5 (a) Explain functional diagram of programmable interrupt 07 controller 8259.
 - (b) Explain the functioning of the receiver and Transmitter **07** section of the 8251 UART with the help of diagram.
