	Utech
Name:	
Roll No.:	In Spanish (V. Exemples for Explant)
Invigilator's Signature :	

CS/B.TECH(ICE)/SEM-5/IC-503/2011-12

2011

MICROPROCESSOR AND MICROCONTROLLER

Time Allotted : 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP - A (Multiple Choice Type Questions)

1.	Choose the correct	alternatives	for any	ten of the	following:
					$10 \times 1 = 1$

				$10 \times 1 = 10$
i)	In the 8085 temporary registers are			
	a)	H, L	b)	W, Z
	c)	X, Z	d)	PC, SP.
ii)	LDA	A instruction need 1 ope	code	and
	a)	2 read, 1 write cycle	b)	1 read, 2 write cycle
	c)	3 read cycle	d)	none of these.
iii)	CAI cyc		ns n	eed machine
	a)	1	b)	2
	c)	3	d)	5.

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				<u>Urean</u>
iv)	In 8	n 8085 CPU, the JUMP instructions address affects the		
	a)	Accumulator	b)	Stack Pointer
	c)	H-L Pair	d)	Program Counter.
v)	To s	sense the pending Inter	rupts	s instruction is
	used	d.		
	a)	SIM	b)	RIM
	c)	SOD	d)	SID.
vi)		SR & I/O Modes are part of		
	a)	8279	b)	8255
	c)	8251	d)	8253.
vii)	808	5 is call 8 bit microproc		
	a)	Data bus	b)	ALU
	c)	Flags	d)	Accumulator.
viii)	The	BIU of 8086		
	a)	decodes the instructions		
	b)	executes the instruction		
	c)	generates the timing signal		
	d)	fetches the instructions cycle.		
ix)	823	7 is a programmable		
	a)	DMA controller	b)	Interval timer
	c)	Interrupt controller	d)	Keyboard display.
x)	The	segment & offset add	ress	of the instruction to be
	exec	cuted by 8086 are point	ed by	7
	a)	CS, SI	b)	DS, IP
	c)	CS, SP	d)	CS, IP.
xi)	DAI) instructions		
	a)	a) add register pair to HL register pair		
	b)	decimal adjust with D register		
	c)	c) add register pair to DC register pair		
	d) direct add accumulator with HL register pair.			



- xii) RET is a byte instruction.
 - a) 1

b) 2

c) 3

d) none of these.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following

 $3 \times 5 = 15$

- 2. Explain the addressing modes of 8085 μp.
- 3. Describe the Flags registers of 8085 μp.
- 4. Draw the timing diagram of the instruction "LXI 3007 H" in 8085.
- 5. Write an ALP to arrange a series of data in ascending order.
- 6. Explain briefly the interrupts of 8086 μp.

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following.

 $3 \times 15 = 45$

- 7. a) Explain BIU & EU unit of 8086.
 - b) Describe the status registers of 8086.
 - c) Explain the modes of 8255.

5 + 5 + 5

- 8. a) Briefly describe the architecture of 8085.
 - b) Describe the different addressing modes of 8086.
 - c) What is I/O mapped I/O & Memory mapped I/O?

$$5 + 5 + (2\frac{1}{2} + 2\frac{1}{2})$$

- 9. a) Draw the timing diagram of the instruction IN 70H.
 - b) Write an ALP to transfer block of data from memory location 2050-2056 to another location starting from 3050.

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- c) Write a programme to count from 0 to 20H with a delay of 100 ms between each count. After the count 20H the counter should reset itself and repeat the sequence. Use register pair DE as delay register.

 5 + 5 + 5
- 10. a) Define Interrupts. Explain in detail the different types of interrupts in 8085.
 - b) Explain following instructions:
 - i) DAD
- ii) DI
- iii) STAX B
- iv) RAR
- c) Explain the control word format for I/O mode of 8255.

(2+5)+4+4

11. Write short notes on any three of the following:

3 × 5

- a) DMA controller
- b) SIM and RIM Instructions
- c) Interrupt Service Subroutine
- d) SOD lines SID
- e) Segment registers of 8086 µp.

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