	Utech
Name :	
Roll No.:	To Character (y Exercisings State Exercises)
Invigilator's Signature :	

CS/B.Tech (BME/EE(O))/SEM-6/EI-611/2010 2010

MICROPROCESSOR & APPLICATIONS

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 the following : $10 \times 1 = 10$
 - i) A microprocessor is said to be 8 bit, 16 bit or 32 bit processor depending on its
 - a) Register
- b) Data Bus
- c) Address Bus
- d) ALU.
- ii) The number of multiplexed address-data lines of 8085
 - a) 12

b) 16

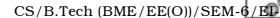
c) 8

- d) 20.
- iii) Whenever the PUSH instruction is executed, the stack pointer is
 - a) decremented by 1
- b) decremented by 2
- c) incremented by 1
- d) incremented by 2.

6305 Turn over

CS/B.Tech (BME/EE(O))/SEM-6/EI-611/2010

	iv)				ed the address of the
		instruction next to 'CALL' is save in			
		a)	stack pointer register	b)	program counter
		c)	stack	d)	PSW.
	v)	The instruction MOV A , B belongs to			gs to
		a)	Immediate addressing	b)	Direct addressing
		c)	Implied addressing	d)	Register addressing.
vi) How much can a standard 8086 real mode?				36 processor address in	
		a)	64 kb	b)	1 MB
		c)	16 MB	d)	4 GB.
	vii)	vii) How many output device can be identified by the using I/O mapped I/O $?$			
		a)	256	b)	255
		c)	1024	d)	128.
	viii) How many hardware interrupt request a single in controller IC 8259 can process?				
		a)	8	b)	15
		c)	16	d)	64.
	ix)	ix) Flash Memory is			
		a)	PROM	b)	EPROM
		c)	EEPROM	d)	ROM.
x) The number of programma microprocessor is		able	8 bit register of 8085		
		a)	5	b)	6
		c)	7	d)	8.
)!	5		2		
٠,	-		-		





(Short Answer Type Questions)

Answer any three of the following.



- 2. What do you understand by sub-routine? What is the use of stack pointer? What do you understand by the term LIFO as applied to stack? 2 + 1 + 2
- 3. What operation can be performed by using the instruction SUBB ? If A contains 17H and B contains 25H specify the status of zero and carry flag after the SUBB instruction. Write a program to add two hexadecimal no. 3 AH and 47H and to DISPLAY the answer at an output port 1. 1 + 2 + 2
- 4. What is *T*-State ? What is multiplexed address/data bus in 8085 microprocessor ? What is unconditional and conditional JUMP? 1 + 2 + 2
- 5. What is the function of ALU? Distinguish between 'software interrupts' and 'hardware interrupts' in 8085 microprocessor.
- 6. MVI A, 64H

MVI B, 32H

ADDB

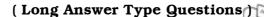
HLT

Specify the register contents and the flag status after each instruction executed. Assume initially A = 00H, B = 00H, S = 0, Z = 1, CY = 0, AC = 0, P = 0.

What do you mean by opcode and operand? Explain with a suitable example. 3 + 2

CS/B.Tech (BME/EE(O))/SEM-6/EI-611/2010

GROUP - C



Answer any *three* of the following.



- 7. a) Write an assembly language programme to add first 10 natural numbers and store the result at memory location 2050H.
 - b) The instruction code 01001111 (4FH) is stored in memory location 2050H. Explain the data flow and list sequence of events when the instruction code is fetched by the MPU.
 - c) Discuss the operation performed by the PUSH and POP instruction. 6+5+4
- 8. a) What are high level language and low level language?
 - b) What is the function of ALE in 8085 microprocessor?
 - c) What are the functions of 'TRAP', 'RESET', 'INTR' pins 8085 microprocessor?
 - d) What are RAM and ROM?

- 4 + 2 + 3 + 6
- 9. a) Draw the block diagram of a typical microprocessor based system and briefly discuss its different sections.
 - b) What do you mean by word length of a microprocessor?
 - c) What is system bus?

- 8 + 3 + 4
- 10. a) Draw the block diagram of 8255 and briefly discuss its different PORTS.
 - b) What is Direct Memory Access?
 - c) What is DMA controller?
 - d) What is the function of 'HOLD' and 'HLDA' pins in 8085 microprocessor? 6+4+3+2
- 11. Write short notes on any *three* of the following :
- 3×5

- a) MAX mode of 8086 microprocessor
- b) 8051 microcontroller
- c) Compiler
- d) Assembler
- e) Programmable peripheral interface.

6305 4