Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY
Manipal University

FOURTH SEMESTER B.TECH (E & C) DEGREE END SEMESTER EXAMINATION
MAY / JUNE 2016
SUBJECT: INTRODUCTION TO MICROPROCESSORS (ECE - 346)

TIME: 3 HOURS **MAX. MARKS: 50**

Instructions to candidates
- Answer **ANY FIVE** full questions.
- Missing data may be suitably assumed.

1A. Sketch the hardware architecture of 8085 microprocessor. Explain the configuration of flag register.

1B. Define assembler directives and explain any four of them.

1C. Specify the size of data, address, memory word and memory capacity of 8085 microprocessor.

(5+3+2)

2A. With the neat sketch, explain the two techniques used to interface I/O devices to microprocessor.

2B. Explain any two parallel data transfer schemes available in 8085 microprocessor.

2C. Differentiate between microprocessor and microcomputer.

(5+3+2)

3A. Explain the addressing modes of 8085 microprocessor with the help of examples.

3B. Write an 8085 program to add two multibyte numbers. The width of the number is placed in memory location 9000H. Place the first number from 9A00H onwards and second number from 9B00H onwards. Store the result from 9C00H onwards.

3C. Using direct addressing mode write an 8085 program to transfer four bytes of data stored from location 2400H onwards to 2500H onwards.

(5+3+2)

4A. Sketch and explain the timing diagram for the instruction MVI B, 43H

4B. Explain the following instructions available in 8085 microprocessor. Also identify the addressing mode associated with each instruction.

i) XCHG ii) LHLD 1253H iii) DAA

4C. Explain the software interrupts of 8085 microprocessor.

(5+3+2)

5A. Draw and explain the block diagram of 8255 PPI. Write the control word format of 8255.

5B. Switches SW0-SW7 and 8 LEDs are interfaced to 8085 through 8255 Port A and Port B respectively. Write an assembly language program to sense switch positions and display the sensed pattern on LEDs. Assume any suitable address for ports.

5C. Explain the BSR mode of 8255. Give the control word for setting PC0 and resetting PC4.

(5+3+2)

6A. Write a program to develop a temperature controller system using 8085 microprocessor.

6B. Interface a 32KB ROM and a 4KB RAM with 8085 processor. RAM starts at address 0000H and ROM starts at address 3000H. Write the address decoding scheme using 3:8 decoder.

6C. Write an 8085 program to generate a square wave of 5V amplitude. Use port A of 8255 to give digital input to DAC having an address 90H.

(5+3+2)