

2056

B.E. (Information Technology)
Fourth Semester

PCIT-401: Microprocessor and Assembly Language Programming

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

1. Attempt the following:-

- a) Draw and explain the pin diagram of 8085 microprocessor?
- b) What is addressing mode? How many types of addressing modes are in 8085? Describe each in detail.
- c) What are the steps of input output interfacing? Draw the interfacing of an LED with 8085.
- d) Explain vectored and non vectored Interrupts.
- e) How stack and subroutine offer a great deal of flexibility in writing programs?
(5x2)

UNIT - I

2. a) Draw the functional block diagram of 8085 microprocessor using an example, Explain how an instruction is decoded and executed?
b) With the help of schematic diagram explain the concept of generation of control signals along with demultiplexed address and data bus for 8085. (2x5)
3. a) Analyze the role of following program and identify the **Memory Address** starting at 2040H and **number of bytes** of each instruction for the following code:

START : LDA FFF9H

STA FFF8H

MOV B A

JMP START

- b) Describe Memory mapped I/O and Peripheral I/O in terms of following characteristics:

Data transfer and instructions available.

(2x5)

P.T.O.

(2)

4. a) Write a program to add ten bytes of data stored in memory locations starting at 2030H and display the sum. Also draw a flowchart.
- b) Explain the following instructions
- i) LDAX B/D
 - ii) DCX Rp
- (2x5)

UNIT -II

5. a) Write a program to generate a continuous square wave with the period of 500 micro sec. Assume the system clock period is 325 ns, and use bit D0 to output the square wave.
- b) Show graphically, how does the program sequence changes with following instructions, by taking example.
- i) CALL ii) PUSH
- (2x5)
6. a) Differentiate Multiple Ending and Nesting Subroutine with example.
- b) Differentiate 8085 interrupts based on Maskable and Non-Maskable characteristics. Indicate the nature of signals that will trigger RST 7.5 and INTR.
- (2x5)
7. Write short note on:-
- a) 8255 (Programmable Peripheral Interface)
 - b) In How many interrupt modes can 8259 operate and which command word is utilized.
- (2x5)

x-x-x