Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam – 603 110

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Department of Information Technology

Continuous Assessment Test – I

Question Paper

Degree & Branch	B.Tech. Information Technology	**Semester**	IV
Subject Code & Name	UIT1403 MICROPROCESSORS AND MICROCONTROLLERS		
Time: 90 Minutes **Date: 29-03-2022**	**Answer All Questions**	**Maximum: 50 Marks**	

Course Outcome:

CO1 - Write programs to run on 8086 Microprocessor based systems.
CO2 - Design the system using memory chips and peripheral chips for microprocessor and microcontroller.
CO3 - Analyse, specify, design, write and test assembly language programs.

Part – A (6 × 2 = 12 Marks)

K2	1	The following are the content of Registers AX = 3000 CX = 1000 BX = A000 DX = 0100 CS = 80000 SS = F000 DS =123A SI = 341B DI =1000 MOV AX, [BX][SI][12] Calculate the Effective address of Source data.	CO1	2.1.3
K2	2	AX = 1234 BX = 0000 MOV BX, AX Name the Flags that get affected after execution of the above Instruction.	CO1	2.1.3
K1	3	What is the difference between Rotate and Shift Instruction in 8086?	CO3	1.3.1
K1	4	What is the length of the Instruction Format which takes Immediate Operand to Register?	CO3	1.4.1
K2	5	Why the length of logical segment is 64KB in 8086?	CO3	1.4.1
K1	6	List two difference between maximum mode and minimum mode configuration of 8086.	CO3	1.3.1

Part – B (3 × 6 = 18 Marks)

K2	7	AX = 1234 BX= 9999 Write a Assembly language Program to Perform (AX – BX)	CO1	13.1.1
K2	8	Explain about the following String Manipulation Instructions in detail. REP, CMPS , MOVSB	CO1	13.1.1

K2	9	Explain about Instruction format of 8086.	CO3	3.1.1

Part – C (2 × 10 = 20 Marks)

K3	10	a. Draw and explain the internal architecture of 8086. b. Calculate the Physical address for the given Logical address **1980 : 78FE**	CO3	1.3.1
		OR		
K3	11	a. Describe various addressing modes of 8086 with examples. b. Calculate the Effective address for the given Instruction and Specify the type of Addressing Mode. MOV [BX + 5], DX	CO3	1.3.1
K3	12	a. Draw the Status Register format and Explain about each flag in detail with Instructions. b. Identify the flags that are affected on execution of **DAA** Instruction.	CO3	1.3.1
		OR		
K3	13	The 8086 signals are categorized in 3 Groups. a. Signal common for both Minimum and Maximum modes. b. Signal for Minimum mode operation c. Signal for Maximum mode operation. Identify the signal for Minimum mode operation and Explain its function.	CO3	1.3.1