Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam – 603 110

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

Department of Information Technology

Continuous Assessment Test – 3

Question Paper

Degree & Branch	B.Tech. Information Technology	**Semester**	IV
Subject Code & Name	UIT1403 - MICROPROCESSORS AND MICROCONTROLLERS		
Time: 90 Minutes **Date: 06-06-2022**	**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.

K1: Remembering K2: Understanding K3: Applying K4:Analyzing K5:Evaluating

Part – A (6 × 2 = 12 Marks)

KL – Knowledge Level CO – Course Outcomes PI – Performance Indicator

Q.no	KL	Questions	CO	PI
1	KL1	Name four major differences between a Microprocessor and Microcontroller.	CO2	1.3.1
2	KL2	Find the time taken to execute an ADD A, R1 one cycle Instruction if crystal frequency is 16 MHZ.	CO2	1.4.1
3	KL2	Write an 8051 program to find 2's complement of a Number.	CO1	1.4.1
4	KL1	Name the 8051 Registers associated with Timer.	CO2	1.3.1
5	KL1	Draw the diagram of Processor Status Word in 8051.	CO2	1.4.1
6	KL2	Illustrate the DJNZ Instruction in 8051.	CO3	1.4.1

Part – B (3 × 6 = 18 Marks)

7	KL3	Write an 8051 program to subtract (A – B) where A = EEEEH, B = FFFFH	CO3	1.3.1
8	KL2	Explain about any 3 Bit addressable special function register other than Ports.	CO2	1.3.1
9	KL2	Explain about the 8051 Signals. RESET, PSEN, ALE, EA, XTAL1, INT0	CO2	1.4.1

Part – C (2 × 10 = 20 Marks)

10	KL2	Explain the architecture of 8051 with a neat diagram	CO2	1.3.1
		Or		
11	KL2	Discuss on different addressing modes of 8051 with suitable Examples.	CO2	1.4.1
12	KL2	Explain about the following Instructions SJMP, AJMP, LJMP, CALL, CJNE	CO2	3.1.1
		Or		
13	KL2	Explain about Internal and External Memory Organization of 8051 Microcontroller.	CO2	13.1.1