Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam – 603 110

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

Department of CSE

Continuous Assessment Test – III

Question Paper

Degree & Branch	B.E. & CSE				Semester	V
Subject Code & Name	UCS1502 - Microprocessors and Interfacing				Regulation:	2018
Academic Year	2021-2022	Batch	2019-2023	Date	21.10.2021	FN
Time: 90 Minutes	Answer All Questions				Maximum: 50 Marks	

Part – A (6×2 = 12Marks)

K1	1.	List down the different types of data transfer supported by 8237.	CO3
K2	2.	Explain the register banks organization of 8051?	CO4
K3	3.	Assume A=11000101 and B= 10101011. Identify the value of A after the execution of instruction SWAP A.	CO4
K2	4.	Compare the operations of PUSH and POP instructions in 8086 and 8051.	CO4
K1	5.	What is the structure of TCON in 8051?	CO5
K2	6.	Explain how different control words are identified in 8279?	CO3

Part – B (3×6 = 18 Marks)

K3	7. Develop an 8051 assembly language program to find out the number of 1s from a given 8 bit number.	CO4
K2	8. Explain the internal architecture of 8051.	CO4
K3	9. Construct an interface with 8279 in interrupt mode for reading a key press. Assume the port addresses and explain the ALP.	CO3

Part – C (2×10 = 20 Marks)

K2	10. Explain Serial Communication interface 8251 in detail.	CO3
	(OR)	
K2	11. Explain programmable interrupt controller in detail.	CO3
K3	12. Develop an 8051 based system for the following scenario. Assume that the number of persons who can enter a room should be restricted to maximum of 9 people. Program counter 1 in mode, display the count value to port 2 as the people enter the room and generate an active high signal at P0.1 when count reaches 9. Also include a reset mechanism to reset the system.	CO5
	(OR)	

K3	13. Develop an 8051 ALP to generate a square wave of time period 30.38 μs on P1.5. Assume XTAL frequency as 11.0592 MHz. Use timer0 in mode 1 to generate the time delay. Find the actual time period of the square wave including the overhead due to the instructions in the loop.	CO5