Name: Enrolment No:	⚡UPES UNIVERSITY OF TOMORROW

Course: Microprocessor and Microcontroller   Semester: IV
Program: B.Tech (ECE) / B.Tech (ECM)   Time   : 03 hrs.
Course Code: ECEG2046   Max. Marks: 100

Instructions: Answer all the sections

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q1	Distinguish between microprocessor and microcontroller	4	CO1
Q2	Demonstrate the interrupt structure of 8085 microprocessor	4	CO1
Q3	Elaborate the embedded C programming in 8051 microcontroller to toggle all the bits of P0, P1 and P2 with 100ms delay. Utilize XOR operation.	4	CO2

Q4	Consider the following instructions in 8051
	(a) MOV A, #4FH
	   MOV A, #0B1H
	
	(a) MOV A, #9CH
	   MOV A, #63H
	
	Determine the value of A and CY after the execution of the above intsructions
		4	CO2

Q5	Explain the pin configuration of RAM (IC8155)	4	CO3

SECTION B
(4Qx10M= 40 Marks)

Q6	Analyze the architecture of 8085 microprocessor	10	CO1
Q7	(a) Examine the 8085 assembly language programming to convert a given hexadecimal number into equivalent ASCII number OR (b) Investigate the assembly language programming in 8051 to generate a square wave with ON time of 4 ms and OFF time of 6ms on all port of port 1. Utilize timer 1 in mode 1 for the delay. Assume XTAL = 11.0592 MHz	10	CO2

Q8	Consider the following set of instructions in 8085 microprocessor
	
	(a) MVI A,3FH
	    ADI 72H
	    JC OUTPUT
	    OUT PORT2
	    HLT
	OUTPUT: XRA A
	    OUT PORT2
	    HLT
	Compute the PORT2 output after the execution of the instructions.
	
	(b) MVI A, FIRST
	    ORA A
	    JP OUTPUT
	    XRA A
	OUTPUT: OUT F2H
	    HLT
	Explain the type of numbers displayed at the output port. Calculate the F2H port output if FIRST = A7H
		2	**CO2**

Q9	Elucidate the architecture of ARM Cortex M3 microcontroller.	**10**	**CO4**
SECTION-C (2Qx20M=40 Marks)			
Q10	Develop and algorithm in 8085 (a) To check the even parity or the odd parity of the number stored in memory location 2010 H. Send 00 H or EE H at the output port 02 H if the parity is odd or even respectively. (b) To count the occurrences of a particular number in the given range Note: Utilize Assembly language Programming OR Execute the assembly language programming in 8051 (c) To compute largest of n numbers (d) To perform hexadecimal to decimal conversion	**20**	**CO2**
Q11	Explore the programmable keyboard IC and its interfacing with the 8085 microprocessor	**20**	**CO3**