Continuous Assessment Test I – January 2023

Programme	:	**B.TECH (ECE & ECM)**	Semester	:	**WS 2022-23**
Course	:	**MICROPROCESSORS AND MICROCONTROLLERS**	Code	:	**BECE204L**
			Class Nbr	:	**CH2022235001113** **CH2022235001114** **CH2022235001115** **CH2022235001116** **CH2022235001117** **CH2022235001118** **CH2022235001119** **CH2022235001120** **CH2022235001121**
Faculty	:	**Dr. SOFANA REKA S** **Dr. REVATHI S** **Dr. SUBHASHINI N** **Dr. S. MUTHULAKSHMI** **Dr. GUGA PRIYA G** **Dr. PRAKASH V** **Dr. E MANIKANDAN** **Dr. RICHARDS JOE STANISLAUS** **Dr. V.R BALAJI**	Slot	:	A2+TA2
Time	:	**90 Minutes**	Max. Marks	:	**50**

Answer <u>ALL</u> the questions

Note: All the programs should have the comments which describes the logic of the program

Q.No.	Sub. Sec.	Questions	Marks
1.		With neat sketch discuss the basic blocks of a microprocessor.	[5]
2.		Explain the functions of the following pins. i). ALE ii).LOCK' iii).BHE' iv).M/IO' v).DT/R'	[5]

3.		Calculate the 20 bit physical address for the below mentioned instruction after execution if AX=49F0H, [BX]=5340H, [SI]=4030H, [DI]=31FFH, [BP]=23FCH, [SP]=1000H, [CS]=130FH, [DS]=20F0H, [SS]=2000H, [IP]=7000H i) MOV AX, 5000H[BX] ii) MOV AX, [BP][SI+03] Also identify the addressing modes for both i) & ii)	[5]
4.		Write the output of each instruction and condition of flags after executing each instructions, if CX= 0102; BX=3005; CF=1;[5000H]=03H; [5001H]=05H i) MOV AX, 3F0FH ii) AND AX,F005H (Use AX from i) iii) RCR CX,1 iv) DEC [5000H] v) CMP BX, AX	[5]
5.		Assume that the last four digits of your register number is 2345 and store each digit in the offset memory location starting from 2000H. Write an 8086 assembly language program to check whether the sum of all the four digits is divisible by 2. If so, store the value 55H in offset location 3000H.If not, store 00H in offset location 3000H. Assume all the data are in hexadecimal.	[10]
6.		The marks scored by a student X in FAT exam for six different subjects are {66H, 71H, 82H, 55H, 93H, 75H}. The marks are stored in data segment address 2000H with an offset address of 0100H in consecutive locations. Write an 8086 assembly language program to find the least mark scored by X and its 1's complement. Store the least score in the offset location 3000H and 1's complement in the offset location 3001H.	[10]
7.		i) Which port can you use for BSR mode in 8255? ii)Write the control word to set bit number 3 of a specific port of 8255.[Use the answer of (i)] iii) To reset bit number 7 of a specific port of 8255.[Use the answer of (i)] iv) Discuss the ports used in mode 2 of 8255 and why it is called as bidirectional I/O?	[10]
			[50]