Reg. No.: [redacted]

Name :

VIT

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

Continuous Assessment Test II – March 2023

Programme	:	B. Tech. (CSE)	Semester	:	WS 2022-23
Course	:	Microprocessors and Microcontrollers	Code	:	BECE 204L
			Class Nbr	:	CH2022235001403
Faculty	:	Dr. Dheeren Ku Mahapatra	Slot	:	G2+TG2
Time	:	90 Minutes	Max. Marks	:	50

Answer ALL the questions

Q.No.	Sub. Sec.	Questions	Marks
1.		Consider three 8-bit numbers X, NUM1 and NUM2 are stored in internal data RAM locations 20H, 21H and 22H respectively. Write an 8051-assembly language program to compute the following if X is equal to 0; then LSB of NUM1 (AND) LSB of NUM2 if X is equal to 1; then MSB of NUM1 (OR) MSB of NUM2 if X is equal to 2; then complement MSB of NUM1 else do nothing store the bit results in RES, where RES is MSB of 23 H locations.	10

2.		Explain the types of addressing modes and type of instruction set used in the following 8051 assembly language instructions with its brief explanation
		MOV P0, #0FFH
		MOV 0E5H, @R0
		MOV @R1, 80H
		MOVC A, @A+DPTR
		MOV TMOD, #0ADH
		MOV IE, #88H
		SETB TR1
		XRL A, P1
		ANL C, P1.0
		SJMP HERE
			10

3.		Write an 8051-assembly language program to generate a square wave with pulse width of 1 Sec on P2.3. What value do we need to load the timer's register if we want to have a time delay of 1 Sec? Assume that XTAL = 11.0592 MHz.	10
4.		Write an 8051-assembly language program to transfer "8051" serially at 9600 baud, 8-bit data, 1 stop bit, do this continuously. Assume appropriate mode of serial	10

		communication. Discuss in detail about values to be loaded in serial communication related registers.	
2.		Write an 8051-assembly language program with timer 0 to turn on an LED connected to P0.5 for one second, turn it off for 500ms repeatedly. If an external interrupt from INT 0 is provided, turn on an LED connected to P0.6 for one second and then turn it off. Assume XTAL=11.0592MHz.	10

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