REG.NO.:

VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF ELECTRONICS ENGINEERING
CONTINUOUS ASSESSMENT TEST - I
WINTER SEMESTER 2024-2025

SLOT: F1

Programme Name & Branch	**: Integrated M Tech MIC, MID**
Course Code and Course Name	**: CSI2006 Microprocessor and Interfacing Techniques**
Faculty Name(s)	**: Dr.S. Rajalakshmi, Dr. N. Rajesh, Dr, C.M Vidhyapathi, Dr. Sagar Pareshkumar , Dr. Arunkumar C**
Class Number(s)	**: VL2024250504200, 4189, 4183, 4205**
Date of Examination	**: 01/02/25**
Exam Duration	**: 90 minutes** **Maximum Marks: 50**

General instruction(s):

- Answer All Questions
- M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)
- Course Outcomes
  1. Explain the design aspects of a typical microprocessor and illustrate its capabilities.
  2. Practice and emulate assembly programs. To develop logic at assembly level for various operations.

Q. No	Question	M	CO	BL
1.	a) Draw the architecture of 8086 and discuss the working of each module.	7		

	b) Explain the step-by-step process when the following 8086 code is being executed.
	MOV BL, 07
	MOV CL, 05
	SUB BL, CL
	HLT
		3	1	1

2.	Discuss the following pins of 8086 i. A16/S3—A19/S6 Signals ii. BHE/S7 signal iii. DT/ R and DEN iv. TEST signal v. INTR and INTA	10	1	2
3.	a) Identify the addressing modes of the following 8086 instructions. i. SUB AL, [BX] ii. MOV BX, [BX+DI] iii. MUL AL, [BX + 07] iv. MOV BL, FFH v. ADD AX, 5000 [BX] [SI]	5	1	3

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	b) Calculate the physical address of the memory location referred by the following 8086 instructions DS= 2000 H SS= 6000H ES= 4000H BP = 0100H SI = 0035H DI= 0200 H BX=0700H, value of displacement = 0500H i. MOV AX, [BX] [SI] ii. ADD AL, [BP + 40H]	5		
4.	Write a 8086 assembly language program to find the Factorial of n=10. Draw the flow chart to explain the same.	10	2	3

5.	a) What is the hexadecimal value of the DX and AX after executing each 8086 instructions below.
	
	MOV AX, 6B49H
	MOV DX, 0095H
	SHL AX, 01
	RCL DX, 01
	ADD AX,DX
	AAA
	OR AL, 30H
		7	2	2

	b) Write the status of 8086 flag registers after executing the following program:
	
	MOV AX, 80F0H
	MOV BX, 9010H
	ADD AX, BX
		3		

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