Reg.No.:												

VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 80029

B.E. / B.Tech. DEGREE END - SEMESTER EXAMINATIONS – JAN. 2026
Fourth Semester
Electrical and Electronics Engineering
U23EE410 – MICROPROCESSORS AND MICROCONTROLLERS
(Regulation 2023)

Time: Three Hours Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Define bit, byte and word.	2	K1	CO1
2.	List few applications of microprocessor-based system.	2	K1	CO1
3.	Compare CALL and PUSH instructions.	2	K2	CO2
4.	How to access subroutine within the main program procedure.	2	K2	CO2
5.	Give the memory size of 8051 microcontroller.	2	K1	CO3
6.	List the addressing modes of 8051 microcontroller.	2	K1	CO3
7.	State the purpose of control word format for 8255 Input output mode.	2	K1	CO4
8.	Differentiate A/D and D/A converters.	2	K1	CO4
9.	Draw the block diagram of closed loop system of servo motor.	2	K2	CO5
10.	Mention the importance of 8051 microcontroller for the working of traffic light control system.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.		Questions	Marks	KL	CO
11.	a)	With the help of neat diagram, explain the architecture of 8085 microprocessor in detail.	13	K2	CO1
		(OR)			
	b)	Describe the data transfer concepts in 8085 microprocessor.	13	K2	CO1
12.	a)	i. Write an assembly language program to find greatest between the two number.	7	K2	CO2
		ii. Write an assembly language program to sort numbers in ascending order.	6		
		(OR)			
	b)	Define addressing mode. Write the types of addressing modes with example.	13	K2	CO2
13.	a)	Describe the architecture of 8051 microcontroller with a neat block diagram.	13	K2	CO3
		(OR)			
	b)	i. Describe the timing diagram of external data memory read cycle of 8051 microcontroller.	7	K2	CO3
		ii. Illustrate the vectored interrupts in 8051 microcontroller.	6		
14.	a)	Describe the programmable counter/interval timer (8253) interface and its operating modes.	13	K2	CO4
		(OR)			
	b)	Illustrate the interfacing of keyboard and display controller (8279) with neat diagram.	13	K2	CO4
15.	a)	Discuss in detail about the washing machine control of 8051 microcontroller.	13	K3	CO5
		(OR)			
	b)	Explain the closed loop control of a servo motor using 8051 microcontroller with neat diagram.	13	K2	CO5

PART – C

(1 x 15 = 15Marks)

Q.No.		Questions	Marks	KL	CO
16.	a)	Draw a schematic diagram and write an assembly language program traffic light control using 8051 microcontroller for implementing.	15	K2	CO5
		(OR)			
	b)	Explain in detail about the interface of LED & LCD display.	15	K2	CO4