



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

**Question Paper Code: 80002**

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – NOV. / DEC. 2025  
 Fifth Semester  
 Electrical and Electronics Engineering  
 U19EE516 – MICROPROCESSORS AND MICROCONTROLLERS  
 (Regulation 2019)

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 microprocessor.	2	K1	CO1
2.	Give examples for 8 / 16 / 32 bit Microprocessor.	2	K2	CO1
3.	Compare CALL and PUSH instructions.	2	K1	CO2
4.	List out the five categories of 8085 instructions.	2	K1	CO2
5.	Mention the interrupts in 8051 microcontroller.	2	K1	CO3
6.	Illustrate the role of TMOD register.	2	K1	CO3
7.	State the purpose of control word format for 8255 I/O mode.	2	K1	CO4
8.	Define synchronous data transfer.	2	K1	CO4
9.	Give the advantages of closed loop control system for interfacing.	2	K1	CO5
10.	Draw the block diagram of closed loop system of servo motor.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q. No.	Questions	Marks	KL	CO
11. a)	Discuss about the memory organization in 8085.	13	K2	CO1
	(OR)			
b)	Draw the bus timing diagram for the instruction STA 2022 H in microcontroller and explain it.	13	K2	CO1
12. a)	Define addressing mode. Explain about the types of addressing modes with example.	13	K2	CO2
	(OR)			
b)	Explain the operation of stack and subroutines in 8085 microprocessor.	13	K2	CO2
13. a)	Draw and explain the pinouts of 8051 microcontroller.	13	K2	CO3
	(OR)			
b)	Illustrate about the vectored interrupts in 8051 microcontroller.	13	K2	CO3
14. a)	Explain the functioning of 8255 programmable peripheral interface and its modes.	13	K2	CO4
	(OR)			
b)	With neat diagram, explain the architecture and features of 8279 keyboard display controller.	13	K2	CO4
15. a)	Describe the working of RTC interfacing using microcontroller.	13	K2	CO5
	(OR)			
b)	Discuss in detail about stepper motor control using 8051 microcontroller.	13	K2	CO5

PART – C

(1 x 15 = 15 Marks)

Q. No.	Questions	Marks	KL	CO
16. a)	Explain the functioning of 8251 programmable communication interface and its modes.	15	K2	CO4
	(OR)			
b)	A switch is connected to pin P2.7 of microcontroller. Write an ALP to monitor the status of switch and perform the following	15	K3	CO5
	i. If sw = 0 stepper motor moves clockwise.			
	ii. If sw = 1 stepper motor moves counter clockwise.			