Reg. No.												

Question Paper Code	12400

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023

Fifth Semester

Electronics and Instrumentation Engineering

(Common to Instrumentation and Control Engineering)

20EIPC502 - MICROPROCESSOR AND MICROCONTROLLERS

(Regulations 2020)

Duration: 3 Hours Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	List the general-purpose registers of 8085 Microprocessor.	*2,K1,CO1*
2.	Illustrate the contents of a flag register present in 8085.	*2,K2,CO1*
3.	Draw the format of TCON register in 8051 Microcontroller.	*2,K1,CO2*
4.	Find the addressing modes for the following instruction :- a. ADD A,R7 b. ADD A,55H c. MOV A,@R0 d. MOVC A,@A+DPTR.	*2,K2,CO2*
5.	State the operating modes of IC 8259.	*2,K1,CO3*
6.	Define the function of the GATE signal in timer IC 8253.	*2,K1,CO3*
7.	Mention the interrupts of 8051 microcontroller.	*2,K1,CO4*
8.	Enumerate the applications of Servo motor.	*2,K2,CO4*
9.	Describe the advantages and disadvantages of RISC processors.	*2,K2,CO5*
10.	What are the three types of buses used in CPU?	*2,K1,CO5*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	Enumerate briefly about the functional blocks of 8085 microprocessor architecture with a neat sketch.	*13,K2,CO1*
		OR	
	b)	Draw the timing diagram for the instruction STA 5200H and explain the operation of each machine cycle.	*13,K2,CO1*
12.	a)	Draw the data memory structure of 8051 microcontroller and explain in detail.	*13,K2,CO2*
		OR	

b) (i) Explain the different addressing modes of 8051 Microcontroller. *7,K2,CO2*

(ii) Explain the pin configuration of 8051 Microcontroller. *6,K2,CO2*

13. a) Explain briefly about the functional blocks of IC 8279 architecture with a neat sketch. *13,K2,CO3*

OR

b) Explain briefly about the functional blocks of IC 8255 architecture with a neat sketch. *13,K2,CO3*

14. a) Explain with a neat block diagram and Assembly language program to Interface stepper motor with 8051 microcontroller. *13,K2,CO4*

OR

b) Show how to program and interface LCD to an 8051 microcontroller. *13,K2,CO4*

15. a) Explain about RISC architecture in detail with the help of an example. Also discuss how RISC processors are better than CISC Processor. *13,K2,CO5*

OR

b) Explain the Architecture of 64 bit Microprocessor in detail. Also explain its features and Applications. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Explain the Architecture of 16 bit Microprocessor in detail. Also explain its features and Applications. *15,K2,CO4*

OR

b) Draw a circuit diagram for keyboard interface with 8051 microcontroller and write a program for reading any key. *15,K2,CO5*