27 APR 2023

Reg. No.												

Question Paper Code	11821

B.E./B.Tech. - DEGREE EXAMINATIONS, APRIL/MAY 2023

Sixth Semester

Electronics and Communication Engineering

EC8691 - MICROPROCESSORS AND MICROCONTROLLERS

(Regulations 2017)

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	Define Stack Pointer.	*2,K1,CO1*
2.	What are the advantages of memory mapped I/O over I/O mapped I/O?	*2,K1,CO1*
3.	Define machine cycle.	*2,K1,CO2*
4.	Compare closely coupled and loosely coupled configuration.	*2,K2,CO2*
5.	List the advantages and disadvantages of parallel communication over serial communication.	*2,K1,CO3*
6.	Why is memory interfacing required?	*2,K1,CO3*
7.	How to set 8051 in idle mode?	*2,K2,CO4*
8.	Illustrate the CJNE instruction.	*2,K1,CO4*
9.	List the 8051 interrupts with its priority.	*2,K1,CO5*
10.	Brief the function of SM2 bit in the SCON register of 8051.	*2,K2,CO5*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	With a neat block diagram, explain the architecture of 8086 Microprocessor.	*13,K2,CO1*
		OR	
	b)	Explain about Interrupt and Interrupt Service Routine in 8086.	*13,K2,CO1*
12.	a)	With neat diagram explain the minimum modes of operation of 8086.	*13,K2,CO2*
		OR	
	b)	Discuss about the multiprocessor configuration of 8086.	*13,K2,CO2*
13.	a)	With a block diagram design how 8255 functions in different modes to accommodate different kind of I/O devices.	*13,K3,CO3*

OR

b) Explain how 8253 timer functions in different modes with necessary diagram. *13,K3,CO3*

14. a) Explain in detail about the architecture of 8051microcontroller with neat diagram. *13,K2,CO4*

OR

b) Write the available special function registers in 8051.Explain each register with its format and function. *13,K2,CO4*

15. a) Illustrate the serial communication in 8051, with its special function register. *13,K2, CO5*

OR

b) What are sensor interfacing and external memory interfacing? Explain. *13,K2,CO*

PART - C (1 × 15 = 15 Marks)

16. a) Write the algorithm and assembly language program for Traffic Light control system with necessary diagram. *15,K3,CO6*

OR

b) Draw a diagram to interface a stepper motor with 8051micro controller also write an 8051 ALP to run the stepper motor in both forward as reverse direction. *15,K3,CO6*