

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Fourth Semester

Electrical and Electronics Engineering

EE3404 - Microprocessor and Microcontroller

Regulations - 2021

Duration : 3 Hrs

Maximum: 100 Marks

PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	Indicate the function of program counter in 8085 microprocessor.	UN	1	2
2.	Differentiate between the microprocessor and microcontroller.	AN	1	2
3.	If the 8085 adds 87H and 79H, specify the contents of the accumulator and the status of S, Z and CY flag?	AP	2	2
4.	Identify the functions of stack.	UN	2	2
5.	Give the salient features of Intel 8259 PIC.	RE	3	2
6.	Define handshaking.	UN	3	2
7.	Mention the functions of the pin PSEN of 8051.	UN	4	2
8.	Develop a program to generate delay in 8051.	AP	4	2
9.	List the features of RISC architecture.	RE	5	2
10.	Compare the addressing modes of RISC architecture and 8051 microcontroller.	AN	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

Q.No	Questions	BLT	CO	Marks
11.	a Analyse the functional block diagram of 8085 microprocessor with neat diagram.	AN	1	13
	Or			
	b Examine an 8085 interrupt process and summarize the difference between a maskable and a non maskable interrupts.	AN	1	13
12.	a i Illustrate the various addressing modes of 8085 microprocessor with example.	UN	2	8
	ii Utilize the data transfer and control instructions of 8085 microprocessor in suitable examples.	AP	2	5
	Or			
	b i Explain briefly about subroutine instructions with example.	UN	2	8
	ii Develop an 8085 assembly language program to multiply two 8 bit numbers.	AP	2	5
13.	a Analyze the internal architecture, and registers of the 8255 programmable peripheral interface.	AN	3	13
	Or			
	b Outline the operating modes in 8254 timer/counter.	AN	3	13

14.	a i	Assess the various arithmetic instructions of 8051 with suitable examples.	AP	4	7
	ii	Inference the function of the interrupts present in 8051 microcontroller.	AN	4	6
Or					
	b i	Demonstrate the interfacing of a 4x4 keyboard with 8051 microcontroller.	AP	4	7
	ii	Discover the operation of the stepper motor control using 8051 microcontroller.	AN	4	6
15.	a	Explain the memory organization used in RISC-based systems.	UN	5	13
	Or				
	b	Describe how I/O port operations are managed in RISC-based Microcontrollers.	UN	5	13

*PART – C (Marks 1*15 = 15)*

<i>Q.No</i>	<i>Questions</i>		<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a i	Summarize about the I/O read and write operation of 8085 processor with timing diagram.	UN	1	7
	ii	Develop an ALP to load the hexadecimal numbers 9BH and A7H in registers D and E respectively and add the numbers. If the sum is greater than FFH display 01H at output port 00H; otherwise display the sum.	EV	2	8
Or					
16.	b i	Explain the interfacing of D/A converter with 8051 microcontroller with neat diagram.	UN	4	7
	ii	Write an ALP to find the largest among N (count) 8 bit numbers which are stored in the memory location starting from 4201H. Result should be loaded in the location 4300H and assume that the count is available in the memory location 4200H.	EV	3	8