

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025***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)**

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	List the registers of 8085 processor.	L1	1	2
2.	Infer the function of program counter in 8085 microprocessors.	L2	1	2
3.	Illustrate the function of 8085 instruction: CPI and RRC.	L2	2	2
4.	Compare the significance of 'XCHG' and 'SPHL' instructions.	L2	2	2
5.	Analyze the function of read back command in 8254.	L4	3	2
6.	Give the operation modes of 8255.	L1	3	2
7.	Examine, how the microcontrollers respond to any interrupt request?	L3	4	2
8.	Mention any four data transfer instructions of 8051 microcontroller.	L2	4	2
9.	List out any four features of PIC microcontroller.	L1	5	2
10.	Comment on the organization of program memory and data memory in PIC 16 Series microcontroller.	L2	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Sketch neatly and explain the timing diagram of CALL instruction in 8085.	L2	1	16
	Or			
	b Explain an 8085-interrupt process and mention the difference between a maskable and a non-maskable interrupts.	L2	1	16
12.	a i Illustrate a program with a flowchart to multiply two 8-bit numbers.	L2	2	8
	ii Explain the various arithmetic instructions of 8085 with illustrative examples.	L2	2	8
	Or			
	b i Write an ALP using 8085 instructions to implement a hexadecimal to 7-segment decoder using look-up table method.	L2	2	8
	ii Describe with suitable examples the data transfer and control instructions in 8085 microprocessors.	L2	2	8

13.	a	Explain how the 8255A programmable peripheral interface chip can be used with the 8085 for reading and writing parallel data from and to I/O devices.	L3	3	16
		Or			
	b	Discuss with a neat diagram of the internal architecture and registers of 8279 keyboard/ display controller.	L3	3	16
14.	a	Discuss the addressing modes of 8051 microcontroller with suitable examples.	L2	4	16
		Or			
	b	Explain about various serial communication modes provided by 8051 microcontroller.	L2	4	16
15.	a	Elucidate the different functional blocks available in a PIC16 series of microcontroller.	L3	5	16
		Or			
	b	Demonstrate the interrupt structure supported in PIC16F877 microcontroller.	L3	5	16