O.P.Code: 20EC0416	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations February-2024

MICROPROCESSORS AND MICROCONTROLLERS

(Electronics & Communications Engineering)

Time: 3 Hours **Max. Marks: 60**

(Answer all Five Units **5 x 12 = 60** Marks)

		UNIT-I			
1	**a**	Illustrate the microcomputer system with example.	**CO1**	**L3**	**6M**
	b	How computers are classified? Explain in brief.	**CO1**	**L1**	**6M**
		OR			
2		Draw a block diagram of Microprocessor controlled temperature system and identify function of each component.	**CO1**	**L4**	**12M**
		UNIT-II			
3	**a**	Discuss how the dataflow from memory to Microprocessor with neat diagram.	**CO2**	**L2**	**6M**
	b	Explain the branch control instructions of the 8085 microprocessor.	**CO2**	**L4**	**6M**
		OR			
4	**a**	Define an interrupt and explain the different types of interrupts available in the 8085 microprocessors.	**CO2**	**L4**	**6M**
	b	Draw the flag register of the 8085 microprocessor and explain each bit in detail.	**CO2**	**L4**	**6M**
		UNIT-III			
5	**a**	Describe the internal RAM structure in the 8051 microcontroller.	**CO3**	**L2**	**6M**
	b	Analyze the functionality of I/O ports circuits in 8051 microcontroller.	**CO3**	**L4**	**6M**
		OR			
6		Draw the pin diagram of 8051 microcontroller and describe the functionality of each pin in detail.	**CO3**	**L2**	**12M**
		UNIT-IV			
7	**a**	Explain Jump and Call instructions of 8051 microcontroller with an example.	**CO4**	**L4**	**6M**
	b	List various arithmetic operations performed in 8051 microcontroller.	**CO4**	**L1**	**6M**
		OR			
8	**a**	Discuss the following instructions of 8051microcontroller with an example. (i) Bit-level logical operations (ii) Byte level logical operations	**CO4**	**L2**	**6M**
	b	Write and explain an ALP program of four time rotate right and rotate left carry operation in 8051.	**CO4**	**L4**	**6M**
		UNIT-V			
9	**a**	Illustrate the seven-segment numeric led Display and explain the operation seven segment.	**CO5**	**L4**	**6M**
	b	Design the x-y matrix keyboard and coded key board.	**CO5**	**L6**	**6M**
		OR			
10	**a**	Explain and design the 2*4 coded keyboard.	**CO5**	**L4**	**6M**
	b	Discuss about Keyboards and human factors.	**CO5**	**L2**	**6M**

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