SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech II Year II Semester Regular & Supplementary Examinations June-2024
MICROPROCESSORS AND MICROCONTROLLERS
(Common to CSE & CSIT)

Time: 3 Hours   Max. Marks: 60

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

UNIT-I

1	a	Draw a block diagram of Microprocessor based system and explain the functions of each component.	CO1	L4	6M
	b	How computers are classified? Explain in detail.	CO1	L1	6M

OR

2	a	Explain the Instruction fetch operation from memory in detail.	CO2	L3	6M
	b	List different computer languages and explain them.	CO2	L2	6M

UNIT-II

3	a	Draw the pin diagram of the 8085 microprocessor and categorize the pins based on function	CO2	L4	6M
	b	Explain the Data transfer and branch control instructions of the 8085 microprocessor with example.	CO2	L2	6M

OR

4	a	Define an interrupt and explain the different types of interrupts available in the 8085 microprocessors.	CO2	L2	6M
	b	List out different types of instruction set in 8085 microprocessor with examples.	CO2	L2	6M

UNIT-III

5	a	Draw the internal architecture of 8051 microcontroller and explain the function of each block present in it.	CO3	L2	6M
	b	Explain the internal and external memory organization in microcontroller.	CO2	L2	6M

OR

6	a	List out the Special Function registers in 8051 Microcontroller and describe the internal RAM structure in the 8051 microcontroller.	CO5	L2	6M
	b	Analyze the functionality of I/O ports circuits in 8051 microcontroller.	CO4	L4	6M

UNIT-IV

7	a	Write an assembly program of 8051microcontroller to perform addition, subtraction, division and multiplication of two 8-bit numbers and store the result in a 2055 & 2057 memory location.	CO6	L3	6M
	b	Write and explain an ALP program of OR, AND & XOR operation in 8051.	CO4	L2	6M

OR

8	a	Discuss the following instructions of 8051microcontroller with an example. (i) Bit-level logical operations (ii)Byte level logical operations.	CO4	L1	6M
	b	Explain Jump and Call instructions of 8051 microcontroller with an example.	CO4	L2	6M

UNIT-V

9	a	Explain multiple interrupts present.	CO2	L2	6M
	b	Discuss about interrupt driven program for small keyboards.	CO5	L2	6M

OR

10	a	Draw diagram and explain the D/A converter circuit.	CO5	L4	6M
	b	Illustrate the seven-segment numeric led Display and explain the operation seven segment.	CO5	L3	6M

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