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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech III Year II Semester Regular Examinations August-2022

MICROPROCESSORS AND MICROCONTROLLERS

(Common to ECE & EEE)

Time: 3 hours

Max. Marks: 60

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

UNIT-I

- 1 a Describe the function of the input devices. L2 6M
b Illustrate with a neat sketch, how the microprocessor can be used in Microprocessor Controlled Temperature System (MCTS). L3 6M

OR

- 2 a What is the need for memory? Classify different types of memory. L2 6M
b Sketch the functional block diagram of the microcomputer system and summarize the function of each block. L3 6M

UNIT-II

- 3 a Illustrate the timing and control signals generation in 8085 microprocessor. L3 6M
b Differentiate RLC and RRC instructions with suitable example. L4 6M

OR

- 4 a Explain the Data transfer instructions of the 8085 microprocessor with an example. L2 6M
b Describe the Logical instructions of the 8085 microprocessor with an example. L2 6M

UNIT-III

- 5 a Describe the importance of the I/O port in the microcontroller. L2 6M
b Distinguish the microprocessors and microcontrollers. L4 6M

OR

- 6 a List the applications of the timers and counters in 8051 microcontrollers L1 6M
b Explain the modes of operation using SCON register in 8051 μ C L2 6M

UNIT-IV

- 7 a Describe the different types of addressing mode supported by 8051 with suitable examples. L2 6M
b Explain any three arithmetic operations Instructions of 8051 microcontroller with an example. L2 6M

OR

- 8 a Explain Jump and Call instructions of 8051 microcontroller with an example. L2 6M
b Compare CALL and PUSH instructions. L3 6M

UNIT-V

- 9 a With a neat sketch, show the interfacing of a 4x4 matrix keypad with an 8051 microcontroller. L3 6M
b With the help of a neat sketch, show the interfacing of 7-segment display with an 8051 microcontroller and explain its operation. L3 6M

OR

- 10 a Explain multiple interrupts present in 8051 microcontroller. L2 6M
b Describe the working principle of Analog to Digital Converter with a suitable diagram. L2 6M

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