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

B.Tech III Year II Semester Regular Examinations July-2021

MICROPROCESSORS AND MICROCONTROLLERS

(Common to EEE and ECE)

Time: 3 hours

Max. Marks: 60

PART-A

(Answer all the Questions **5 x 2 = 10** Marks)

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|----------|---|-----------|-----------|
| 1 | a List out the MPU performs primary four operations. | L1 | 2M |
| | b Find the content of the Accumulator after executing MOV A, Bif A=02 H, B=00 H. | L1 | 2M |
| | c Define microcontroller. | | 2M |
| | d List the importance of DAA instruction. | L1 | 2M |
| | e Give the different methods to implement switch debouncing. | L1 | 2M |

PART-B

(Answer all Five Units **5 x 10 = 50** Marks)

UNIT-I

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|----------|--|-----------|-----------|
| 2 | a What is the need of memory? And classify different types of memory. | L1 | 5M |
| | b Compare RAM and ROM memories. | L1 | 5M |

OR

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|----------|---|-----------|-----------|
| 3 | a Differentiate between μP & μC . | L1 | 5M |
| | b Explain the terms i) SSI ii) MSI iii) LSI iv) VLSI v) ULSI | L1 | 5M |

UNIT-II

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|----------|---|-----------|-----------|
| 4 | a Draw the pin diagram of 8085 μP . | L2 | 5M |
| | b Define the following pins:
i) READY ii) ALE iii) RESET OUT iv) HOLD & HLDA. | L1 | 5M |

OR

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|----------|--|-----------|-----------|
| 5 | a Explain the concept of De-multiplexing the Bus AD7-AD0. | L2 | 5M |
| | b Describe how timing and control signals are generated in 8085 μP . | L1 | 5M |

UNIT-III

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|----------|---|-----------|-----------|
| 6 | a With the help of neat diagrams, Describe the differences between microprocessors and microcontrollers. | L4 | 7M |
| | b Mention the applications of microcontrollers in everyday life. | L4 | 3M |

OR

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|----------|---|-----------|-----------|
| 7 | a Define counter. Mention the applications of counter | L2 | 5M |
| | b Describe the operation of timers present in 8051 μC . | L2 | 5M |

UNIT-IV

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|----------|--|-----------|-----------|
| 8 | a Mention various arithmetic operations performed in assembly language. | L2 | 5M |
| | b Explain the arithmetic Instructions of 8051 μC with an example. | L2 | 5M |

OR

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|----------|---|-----------|-----------|
| 9 | a Write an assembly program of 8051 μC to subtract two 8-bit numbers and store the result in a memory location. | L2 | 5M |
| | b Write a short note on assembly language programming. | L1 | 5M |

UNIT-V

- 10 a With a neat diagram, show the interfacing of a 4x4 matrix keypad with 8051 μ C. **L4 5M**
- b Describe key bouncing problem and de-bouncing solutions **L6 5M**
- OR**
- 11 a Write a short note on 7-Segment display. **L3 5M**
- b With the help of a neat diagram, show the interfacing of 7-segment display with 8051 μ C and explain its operation. **L2 5M**

END