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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
**(AUTONOMOUS)**  
**BTECH II Year I Semester Supplementary Examinations August-2021**  
**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 Explain how computers are classified from large computers to single chip microcontrollers. 12M

**OR**

- 2 a What is the need of memory? And classify different types of memory. 7M
- b Compare RAM and ROM memories. 5M

**UNIT-II**

- 3 Explain in detail how a data flow from memory to Microprocessor Unit. 12M

**OR**

- 4 Explain the following instructions of 8085 microprocessor with an example. 12M
- i) Data transfer instructions ii) Logical instructions.

**UNIT-III**

- 5 Draw the pin diagram of 8051  $\mu$ C and describe the functionality of each pin in detail. 12M

**OR**

- 6 a Explain the importance of memory in a  $\mu$ P or  $\mu$ C. 2M
- b Describe how the memory is organized in 8051  $\mu$ C in detail. 10M

**UNIT-IV**

- 7 Write an assembly program of 8051  $\mu$ C to multiply two 8-bit numbers and store the result in a memory location. 12M

**OR**

- 8 a Mention various logical operations performed in assembly language. 6M
- b Explain the logical Instructions of 8051  $\mu$ C with an example. 6M

**UNIT-V**

- 9 Describe with a schematic, the scanning of the 4x4 matrix keyboard in an 8051 based system and identifying the key pressed. 12M

**OR**

- 10 a Write a short note on LCD Display. 3M
- b With the help of a neat diagram show the interfacing of LCD Display with 8051  $\mu$ C and explain its operation. 9M

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