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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech II Year II Semester Regular Examinations October-2022

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 Illustrate with a neat sketch, how the microprocessor can be used in Microprocessor Controlled Temperature System (MCTS). L3 8M
b Explain the importance of the input and output devices. L2 4M

OR

- 2 a Sketch the functional block diagram of the microcomputer system and summarize the function of each block. L3 8M
b Distinguish Low level and high-level Languages. L4 4M

UNIT-II

- 3 a Explain the functions of a program counter, stack pointer & ALU in 8085 μ P. L2 6M
b Draw the flag register of the 8085 microprocessor and explain each bit in detail. L1 6M

OR

- 4 a Determine the content of the 9002 memory location after executing the following program
LDA 9000
MOV B, A
LDA 9001
ADD B
STA 9002
HLT
if 9000 has 02H and 9001 has 07H. L3 6M
b Explain the instruction, data formats & data storage in 8085 microprocessor. L2 6M

UNIT-III

- 5 a List the applications of the timers and counters in 8051 microcontrollers. L1 4M
b Illustrate the operation of timers present in 8051 microcontroller. L3 8M

OR

- 6 a Explain the modes of operation using SCON register in 8051 μ C. L2 8M
b Define and draw the formats for IE, IP and TCON register. L1 4M

UNIT-IV

- 7 a Describe how instruction MOVC A,@A+DPTR can be used in reading data from a table. L2 6M
b Discuss the logical operations Instructions of 8051 microcontroller with an example. L2 6M

OR

- 8 a Develop and write an assembly program of 8051 microcontroller to logically AND two 8-bit numbers and store the result in a memory location. L3 6M
b Develop and write an assembly program of 8051 microcontroller to find the largest number among given 10 numbers and store the result in a memory location. L3 6M

UNIT-V

- 9 a With the help of a neat sketch, show the interfacing of LCD Display with 8051 microcontroller and explain its operation. **L3 8M**
b Explain the operation of the LCD Display with a suitable diagram. **L2 4M**
- OR**
- 10 a List instruction command codes for programming an LCD. **L1 8M**
b Distinguish LED and LCD display devices. **L4 4M**

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