

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

B.Tech II Year II Semester Regular & Supplementary Examinations August-2023
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 Write the steps required for writing and executing Assembly language Program and explain the procedure. CO3 L2 6M

OR

- 2 a List different computer languages and explain them. CO2 L2 6M
b List the three operations commonly performed by the Microprocessor. CO2 L1 6M

UNIT-II

- 3 a Draw the pin diagram of the 8085 microprocessor and categorize the pins based on function. CO2 L4 6M
b Discuss CMA, RAR, RAL, RLC and RRC instructions with suitable example. CO2 L2 6M

OR

- 4 a Draw the flag register of the 8085 microprocessor and explain each bit in detail. 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 how the 8051 microcontroller transfers the serial data input and output using UART. CO5 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 List and explain the timers and counters operation in 8051 microcontrollers. Draw the formats of TCON and TMOD registers. CO6 L2 6M

UNIT-IV

- 7 a Explain the function of stack and data exchanges instruction with an example. CO4 L2 6M
b Write and explain an ALP program of and ,OR AND XROR operation in 8051. CO4 L2 6M

OR

- 8 a Describe the bit and byte jumps instruction with an example.in 8051. CO4 L2 6M
b 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

UNIT-V

- 9 a Design and explain the real-time application using 8051 Microcontroller with suitable block diagram. **CO6 L3 6M**
b Discuss about interrupt driven program for small keyboards. **CO5 L2 6M**
- OR**
- 10 a Design and explain the A/D converter circuit. **CO5 L2 6M**
b List out the types of led displays and draw the seven-segment display circuit used for ECEDEPT program. **CO5 L3 6M**

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