



**End Term (Even) Semester Examination May-June 2025**

Roll no.....

Name of the Program and semester: B.Tech IV sem

Name of the Course: Microcontroller

Course Code: TEC 403

Time: 3 hour

Maximum Marks: 100

**Note:**

- (i) All the questions are compulsory.
- (ii) Answer any two sub questions from a, b and c in each main question.
- (iii) Total marks for each question is 20 (twenty).
- (iv) Each sub-question carries 10 marks.

Q1. (2X10=20 Marks)

- a. Explain different types of interrupt in 8085. (CO1)
- b. Explain the function of following 8085 pins (CO1)
  - i. INTA
  - ii. RESET OUT
  - iii. HLDA
  - iv. READY

c. What is the need of memory Interfacing? Draw a circuit to interface 8KB RAM with 8085. (CO1)

Q2. (2X10=20 Marks)

- a. Compare microprocessor and microcontroller with suitable diagram. (CO2)
- b. Explain different addressing modes of the 8051 microcontroller with examples. (CO2)
- c. Write a program to add two BCD numbers in 8051 store the result in RAM location 40H. (CO2)

Q3. (2X10=20 Marks)

- a. Write a program in 8051 to generate a 1 second delay using Timer 1 in mode 1. Assume a 12 MHz crystal. (CO3)
- b. Explain CISC and RISC architectures with examples. (CO2)
- c. Write a program to send the string "YES" serially at 9600 baud rate using the 8051. Assume 12 MHz crystal. (CO3)

Q4. (2X10=20 Marks)

- a. Give an overview of PIC microcontrollers and explain their main features. (CO4)
- b. Describe the architecture and memory organization of PIC-18. (CO4)
- c. Explain the concept and types of addressing modes used in PIC-18. (CO4)

Q5. (2X10=20 Marks)

- a. Explain the architecture of the ARM7 microcontroller. (CO5)
- b. Describe the interfacing of ARM7 with an LED. (CO5)
- c. Compare the key differences between 8051, PIC, and ARM microcontrollers. (CO5)