

**4E1304****4E1304**

**B.Tech. IV - Sem. (Main/Back) Examination, July - 2023**  
**Computer Science and Engineering (AI)**  
**4CAI3-04 Microprocessor and Interfaces**  
**CS, AID, CAI**

**Time : 3 Hours****Maximum Marks : 70****Instructions to Candidates:**

*Attempt all ten questions from Part A, Attempt any five questions out of Seven questions from Part B and three questions out of Five questions from Part C.*

*Schematic diagrams must be shown wherever necessary. Any data missing may suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.*

*Use of following supporting material is permitted during examination. (As Mentioned in form No. 205).*

**PART - A** [ersahilkagyan.com](http://ersahilkagyan.com)

(Word limit 25)

**All questions are compulsory**

**(10×2=20)**

1. What is the clock frequency and duty cycle required for 8085?
2. Write the uses of ALE and HOLD pins of 8085.
3. What are the steps involved in instruction cycle?
4. What is the use of temporary registers W and Z in 8085?
5. What happen with stack pointer after executing two PUSH instructions?
6. Name the different machine cycles.
7. Which addressing mode is used in instruction STAX D?
8. What is the use of RET instruction?
9. List the operating modes of 8255 PPI.
10. What is PSW in 8085?

## **PART - B**

(word limit 100)

Attempt any five questions

(5×4=20)

1. What are the different types of flags available in 8085? Explain in brief.
2. Draw the bus architecture of 8085 and explain.
3. Discuss bidirectional handshaking in 8255 PPI.
4. Draw and explain the timing diagram for memory write machine cycle.
5. Explain various addressing modes in 8085 with suitable example.
6. Write a delay subroutine using 8 bit register. What is the maximum possible delay obtainable.
7. Differentiate between Macro and Subroutine.

## **PART - C**

Attempt any Three questions

(3×10=30)

1. Draw the architecture of 8085 and explain each block clearly.
  2. Write a program to transfer a block of memory data starting from one memory location to another memory location in reverse order.
  3. Explain the use of control word for 8254 PIT.
  4. Draw the architecture of 8259 PIC and explain.
  5. Write technical note on RS422A and IEEE488.
-