(c) Explain the following 8085 instructions with suitable examples : (CO4)

(i) STA

(ii) RRC

(iii) CMP

(iv) MOV

5. (a) Draw and explain the architecture of 8051 microcontroller. (CO5)

(b) List all the features of the 8051 microcontrollers. What are the four distinct type of memory in 8051? Explain. (CO5)

(c) Draw and discuss the pin diagram of 8051 microcontroller. (CO5)

H Roll No. .....

TBC–402

B. C. A. (FOURTH SEMESTER) END SEMESTER EXAMINATION, June, 2023

MICROPROCESSOR

Time : Three Hours

Maximum Marks : 100

Note : (i) All questions are compulsory.

(ii) Answer any *two* sub-questions among (a), (b) and (c) in each main question.

(iii) Total marks in each main question are **twenty**.

(iv) Each sub-question carries 10 marks.

1. (a) What do you mean by the microprocessor ? Discuss the classification of microprocessors. (CO1)

P. T. O.

(b) Draw and explain the Internal Architecture of 8085 microprocessor with a neat diagram. (CO1)

(c) Explain the functions of the following pins of 8085 : (CO1)

(i) HLDA

(ii) HOLD

(iii) TRAP

(iv) ALE

(v) INTR

2. (a) Write short notes on the following : (CO2)

(i) Memory Mapped I/O

(ii) Peripheral I/O

(b) Explain the flag register of 8085. If 8085 microprocessor adds 56H and 77H. Determine the status of all flags and accumulator. (CO2)

(c) Determine the last address of a 4 KB memory chip if its starting address is 2000H.

3. (a) Find the control word of 8255 for the following configuration : (CO3)

(i) All the ports of A, B and C are output ports(mode 0)

(ii) PA = in, PB = out, PCL= out, and PCH = out

(b) Draw and explain internal block diagram of programmable timer counter and it's modes of operation in detail. (CO3)

(c) What do you mean by Direct Memory Access? Draw and discuss internal block diagram of 8237 DMA controller. (CO3)

4. (a) Explain all the data transfer instructions in 8085 with suitable examples. (CO4)

(b) Write an 8085 program : (CO4)

(i) to swap the contents of memory location 2000H and 2001H.

(ii) to copy data 25H at memory location 2100H and data 30H at 2101H.