Graphic Era HILL UNIVERSITY

Established by an Act of the State Legislature of Uttarakhand (Uttaryam Sanshya 12 of 2011) University under section 2(f) of UGC Act, 1956

End Term (Even) Semester Examination May-June 2025

Name of the Program and semester: B.Tech CSE IVsem Roll no. 23.8.1102

Name of the Course: Microprocessors

Course Code: TCS 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 concept of Pipelining and segmentation in 8086. (CO1)

b. Explain the difference between (CO2)
   i) LODSB and LODSW
   ii) DAA and DAS
   iii) AAD and AAM

c. Write 8086 assembly language program to find factorial of an eight-bit number. (CO3)

Q2. (2X10=20 Marks)

a. Explain function of following pins of 8086 (CO1)
   (i) BHE
   (ii) NMI
   (iii) ALE
   (iv) TEST

b. Explain the meaning of following 8086 instructions (CO2)
   i) NEG AL
   ii) MOVSW
   iii)MOV BX, [1234]
   iv) ADD AX, [BX]

c. What are the different addressing modes in 8086? Explain with example. (CO2)

Q3. (2X10=20 Marks)

a. Describe the different types of flags present in the 8085 microprocessor and their functions. (CO1)

b. Draw timing Diagram of instruction SUI 25. (CO1)

c. Write 8085 assembly language program to convert a BCD number to its Binary equivalent(CO3)

Q4. (2X10=20 Marks)

a. Describe the different modes of operation of the 8255 and their uses. (CO4)

b. Write a program in 8086 to reverse a string. (CO3)

c. Explain ADC 0808 interfacing with 8085 with an example. (CO5)

Q5. (2X10=20 Marks)

a. Draw and explain block Diagram of 8259. (CO4)

b. Explain the operation of DMA controller. (CO5)

c. Program 8255 to get data from Port B and send it's 2's complement to port A and complement to port C (CO6)