THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY, PATIALA
COMPUTER SCIENCE ENGINEERING DEPARTMENT

Exam: Mid Semester Test (September 2019)	Class/ Sem: BE-MBA(2017) / VI sem
Course Code: UCS617	Course Name: Microprocessor based System Designs
Exam Date: 28-09-2019 (13:00 IST)	Course Instructor: Ms. Harinder Kaur

All questions are compulsory. Assume the standard values for size of data, memory etc. wherever not provided.

Time : 2 hours Marks: 25

1. (a) With reference to the pin diagram of 8085 microprocessor, explain the use of following signals:-

(i) ALE (ii) INTR (iii) IO/$\overline{M}$ (3)

(b) Differentiate between maskable and non-maskable Interrupts with examples suitable to 8085 microprocessor. (2)

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2. (a) What will be the contents of accumulator and carry flag in 8085 after the execution of the following code :- (2)

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MVI A, 89H
STC
MVI  C, 04H
LOOP: RAL
      DCR C
      JNZ  LOOP
HLT
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(b) Explain the following instructions of 8085 microprocessor with examples :- (3)

(i) XCHG (iii) RRC (iii) SIM

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3. (a) Differentiate between 8085 and 8086 microprocessor. (2.5)

(b) Explain the Interrupt Handling Mechanism of 8086 microprocessor. (2.5)

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4. (a) Explain the concept of segmented memory in 8086 microprocessor. (3)

(b) The value of Code Segment (CS) Register is 4042H and the value of different offsets is as given: BX: 2025H , IP: 0580H , DI: 4247H (2)

Calculate the effective address of the memory location pointed by the CS register.

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5. (a) Explain the following instructions of 8086 microprocessor :- (2)

(i) AAA (ii) AAM

(b) Write a program to find count of positive and negative numbers in a list of 10 numbers stored in contiguous memory locations (from 3000-3009) in 8086 microprocessor. Count of positive numbers and negative numbers should be stored at memory locations 4000 and 4001 respectively. (3)