Roll Number: _____

Thapar Institute of Engineering and Technology (TIET), Patiala
Computer Science & Engineering Department (CSED)
END SEMESTER EXAMINATION

BE MBA:U Grade Exam	Course Code: UCS617 Course Name: Microprocessor Based Systems Design
March 08, 2022	Friday, 05:45M – 07:45 PM
Time: 2.00Hrs, Max. Marks: 50	Name of Faculty: Dr. Chinmaya Panigrahy

Attempt any five questions.

Q1. Fill in the blanks. **(1x10)**

(a) **RST** 2 = **CALL** _____H.

(b) _____ machine cycle of 8085 constitutes **IO/$\overline{M}$**=1, S_1=0 and S_0=1.

(c) ALE signal is activated during _____ T cycle of any 8085 machine cycle.

(d) If condition fails, conditional **JMP** instruction takes _____ T cycles to execute.

(e) The size of instruction queue in 8086 is _____ byte(s).

(f) If the logical adress (segment:offset) = E678:21BB. The corresponding physical address is _____ H.

(g) _____ signal controls the mode in which 8086 Microprocessor opearates.

(h) _____ flag of 8085 flag register is not explicitely associated with any instruction.

(i) **LXI** is a _____ byte(s) instruction.

(j) The 16 low order address lines of 8086 are time multiplexed with _____ and the 4 high order address lines are time multiplexed with control signals.

Q2. Explain 8085 microprocessor with a neat block diagram. **(10)**

Q3. Draw the format of the 8085 flag register. What will be the value of all 5 Flag registers and Accumulator after executing the following programs: **(2.5+2.5x3)**

(a)	(b)	(c)
MVI A, 59H MVI B, 99H ADD B	MVI A, EFH MVI B, CDH ADD B	MVI A, 86H MVI B, 97H SUB B

Q4. Explain the status, control and reset signals of 8085 in detail. What is the purpose of CLK signal? **(3+3+2+2)**

Q5. Explain ARM processor with its pipeline organization, data flow model, and registers. **(10)**

Q6. Draw and explain the 8086 Microprocessor Architecture by clearly explaining the work of bus interface and execution units. **(10)**

Q7. What do you mean by interrupt? What are the hardware, software, maskable, non-maskable, vectored, and non-vectored interrupts? Explain with an example of each type. Explain **SIM** instruction in detail. **(1+6x1+3)**