7. Why the lower order address is multiplexed with data bus ? How they will be de-multiplexed ? Difference between maskable and no-maskable interrupts. Explain following instructions :

(i) ADC

(ii) LHLD

(iii) RLC

(iv) DI

8. What is data path ? Explain fixed point arithmetic. Also, explain fixed point addition and subtraction algorithm with example and suitable hardware block diagram.

9. What are the essential elements of a number in floating-point notations ? How floating point operations perform ? Write an algorithm for fixed point operations.

MSCCS–08/MSCCS-202/ MSCCSC-202/MCA-202

December – Examination 2021

MSCCS/MCA Examination

Computer Architecture and Micro-Processor

Paper : MSCCS-08/MSCCS-202/ MSCCSC-202/MCA-202

Time : 1½ Hours]   [*Maximum Marks : 80*

Note :– The question paper is divided into two Sections A and B. Write answers as per the given instructions.

Section–A   **4×4=16**

(Very Short Answer Type Questions)

Note :– Answer any *four* questions. As per the nature of the question delimit your answer in one word, one sentence or maximum up to **30** words. Each question carries 4 marks.

1. (i) What is Instruction Cycle ?

(ii) Draw the diagram of computer system memories.

(iii) Describe registers and its type.

(iv) What is the purpose of control unit ?

(v) Describe the working of assembler.

(vi) What is I/O Processor ?

(vii) State differences between microprocessor and microcontroller.

(viii) What is Interrupt ?

Section–B   **4×16=64**

(Short Answer Type Questions)

Note :– Answer any *four* questions. Answer should not exceed **200** words. Each question carries 16 marks.

2. What should be the characteristics of memory devices ? What is address translation ? Explain the structure of dynamic address translation system. Also, state the differences of between non pre-emptive and pre-emptive memory allocation.

3. What are the salient features of 8086 ? Draw and explain the architecture block diagram of 8086 in detail. What physical address is represented by :

(i) 4370 : 561EH

(ii) 7A32 : 0028H

4. What are I/O Ports ? What are programmable and non-programmable ports ? Explain working of DMA (Direct Memory Access) with suitable block diagram.

5. What are Instruction Modes ? Explain the various types of instruction modes with suitable example. Also, explain the various addressing modes with suitable example.

6. What is Parallel Processing ? Explain the terms SISD, SIMD, MISD, and MIMD with reference to it. Also, explain the working of multiprocessor with suitable diagram.