7. Define Microprocessor. Draw the pinout diagram of 8085A microprocessor and explain working of each pin in detail.

8. What is data transfer scheme ? Describe the programmed data transfer scheme and explain the following programmed data transfer scheme :

   (a) Synchronous data transfer scheme

   (b) Asynchronous data transfer scheme

   (c) Interrupted driven data transfer scheme

9. What is Microcontroller ? Draw the diagram of internal organization of 8088. Explain each component of internal organization of 8086 in detail.

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

June – Examination 2022

MCA (IInd Year) Examination

Computer Architecture and Micro-Processors

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 function of segment register in 8086 ?

   (ii) State difference between vectored and non-vectored interrupt.

   (iii) Describe instruction formats.

   (iv) What is the assembler ?

   (v) Define parallel processing.

   (vi) What is I/O ports ?

   (vii) Write the purpose of system bus.

   (viii) What is serial access memory ?

Section–B **4×16=64**

(Short Answer Type Questions)

Note :– Answer any *four* questions and maximum word limit for each answer is **200** words. Each question carries 16 marks.

2. What is Central Processing Unit (CPU) ? Explain the following :

   (a) Internal structure of CPU

   (b) Fundamental of CPU

   (c) External communication of CPU

3. What is the interconnection structure ? Explain types of interconnection structure with suitable diagram of each. Also, explain advantages and disadvantages of each type of interconnection structure.

4. Define Register. Explain types of registers. Draw and explain general register organization-based CPU. How encoding of register selection field performs ?

5. What are RISC design principles ? Explain the following :

   (a) RISC characteristics

   (b) RISC pipelining

   (c) RISC v/s CISC

6. What is Cache ? Explain main features of cache. State the differences between cache and main memory. Also, explain the address mapping of cache.