

**FACULTY OF ENGINEERING**

**B.E. (CSE) IV - Semester (AICTE) (Main) (New) Examination,  
September/ October – 2022**

**Subject : COMPUTER ORGANIZATION**

**Time : 3 Hours**

**Max. Marks: 70**

**Note: (i) First question is compulsory and answer any four questions from the remaining six questions. Each Questions carries 14 Marks.**

**(ii) Answer to each question must be written at one place only and in the same order as they occur in the question paper.**

**(iii) Missing data, if any, may be suitably assumed.**

1. (a) What is DMA and Why it is used?  
(b) List various memory management requirements  
(c) What are the types of rotate instruction in 8085 Microprocessor.  
(d) Write control word Register initialization instructions for the 8255A PPI to set  
    i) port A as an output port in mode 0, ii) port B as an output port in mode 1 for I/  
(e) What are the various registers used in 8259?  
(f) Draw and explain Single Bus structures  
(g) Match the following:  
        8255 - Programmable interrupt controller  
        8279 - Programmable Interval Timer  
        8254 - Programmable peripheral interface.  
        8259 - Programmable keyboard/display controller.
2. (a) Explain in detail basic functional units of a computer.  
(b) Write in detail the concept of pipelining and superscalar operations.
3. (a) What is a mapping function? What are the ways the cache can be mapped?  
    Explain in detail.  
(b) Explain in detail virtual memory address translation and use of TLBs.
4. (a) Draw the schematic pin diagram of 8085 MP and explain the various functions of 8085MP.  
(b) Describe the Addressing Modes of 8085 Microprocessors with examples.
5. (a) Explain about the programmable Interrupt controller 8259A  
(b) Explain in detail Stacks in Microprocessor 8085. List and explain instructions employed in Stacks
6. (a) Explain the procedure for interfacing keyboard to microprocessor and draw the block diagram of 8279, programmable keyboard/display interface device.  
(b) Explain in detail 8251 universal synchronous asynchronous receiver transmitter (USART)
7. (a) Explain in detail basic operational concepts of Computer  
(b) Write an ALP to find the largest number in an array.