

**Con. 6761-13.****LJ-11300**

(3 Hours)

**[Total Marks : 100**

- N.B. :** (1) Question no. 1 is **compulsory**.  
(2) Answer any **four** questions from remaining **six**.  
(3) Assume **suitable** data if **necessary**.

1. Design 8086 based minimum mode system for following requirements. **20**
    - (a) 256 KB ROM using 32 KB  $\times$  8 devices.
    - (b) 512 KB RAM using 64 KB  $\times$  8 devices.
    - (c) 2-Nos 8-bit parallel port.
    - (d) Support top 15 interrupts.
  
  2. (a) What is segmentation ? What are the merits and demerits of segmentation ? **10**  
(b) What is maximum mode of 8086 ? How it differs from minimum mode ? **10**
  
  3. (a) Draw and explain the architecture of 8086. **10**  
(b) Draw and explain architecture of 8255. **10**
  
  4. (a) Explain the interrupt structure of 8086 processor. **10**  
(b) Explain 8085 processor with neat block diagram. **10**
  
  5. Discuss different multiprocessor systems with merits and demerits of each. **20**
  
  6. (a) Explain the concept of DMA. Also, explain different modes of 8237 A. **10**  
(b) What is bus arbitration ? Discuss various arbitration techniques. **10**
  
  7. Write short notes on :-
    - (a) Instruction set of 8085. **5**
    - (b) Addressing modes of 8086. **5**
    - (c) 8253-Programmable interrupt timer. **5**
    - (d) IEEE 488. **5**
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