T.E. Comp V (Rev)
Microprocessor

Con. 3817–11. **RK–2092**

(3 Hours) **[Total Marks : 100**

N.B. : (1) Question No. 1 is **compulsory.**
(2) Attempt any **four** questions out of the remaining **six** questions.

1. Design a 8086 Based system consisting of the following :– **20**
   (a) 8086 microprocessor working at 8 MHz.
   (b) EPROM of 64 kB using 32 kB devices.
   (c) SRAM of 64 kB using 16 kB devices.
   (d) One input and one output port (both 16 bit) interrupt driven.
   Explain the design. Also show the memory and I/O map.

2. (a) Explain the Initialization Command Words (ICWs) and Operational Command Words (OCWs) of the 8259 PIC. **10**
   (b) What is segmented memory ? State the advantages of segmentation with reference to the 8086 microprocessor. Also, explain the default segment assignments. **10**

3. (a) Explain the Programmer's model of the Inter 8085 microprocessor. **10**
   (b) Describe the various system bus arbitration schemes in loosely coupled systems. **10**

4. (a) Explain the interrupt structure of the 8086. Discuss the functions of the pre-defined/dedicated interrupts. **10**
   (b) Write a detailed note on the 8289 Bus arbiter. Emphasise on its role in a multiprocessor system. **10**

5. (a) Explain the operating modes of the 8255 PPI. Also, explain the handshaking operation for input and output in model. **10**
   (b) Compare the 8085 and 8086 microprocessor w.r.t. architecture, instruction, set, speed, memory organization. **10**

6. (a) What is meant by Direct Memory Access ? Show as interfacing diagram of 8086 microprocessor with 8237 DMD controller. **10**
   (b) Write a detailed note on the Branch instructions of the 8086. **10**

7. Write short notes on :– **20**
   (a) IEEE–488 GPIB standard
   (b) Addressing modes in the 8086
   (c) 8284 clock generator
   (d) Modes of operation of the 8253-PIT.

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