

TE/Com/Sem-I/Rev (3 Hours)

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

1. A) Interface 2 Input and 2 Output ports of 16 bits each which can be used in hand shaking mode with Intel 8086 microprocessor. Show IO Map and IO Address table. 5
 B) Explain addressing modes of Intel 8085 microprocessor with example 5
 C) Explain tightly coupled multiprocessor configuration. 5
 D) Answer the following questions in brief:
 A) What type number and interrupt vector table addresses are assigned to NMI? 1
 B) Write an instruction that will mask off all bits but bit 7 of the data word stored at address DS:0100H. 1
 C) Explain the differences between Intel 8086 and 8088 processors. 2
 D) Explain ORG assembler directive. 1
2. A) Design a 8086 based microprocessor system with the following specifications:- 10
 A) 8086 is working at 8 Mhz.
 B) 32KB EPROM using 16 KB devices.
 C) 64KB SRAM using 32 KB devices.
 Explain the design and show memory map.
 B) Write an assembly language program for Intel 8086 processor to exchange the blocks of 10
 1 KB located at 0100H and 0200H, using string instructions.
3. A) Draw interfacing diagram of 3 Programmable interrupt controllers connected to Intel 8086 microprocessor and explain it's working with CPU. 10
 B) Explain the concept of DMA. Explain various operating modes of 8237A. 10
4. A) Explain with diagram the signals' carried by the individual pins of port C of 8255A when port A and port B are working in mode 1. 10
 B) Explain the modes of operations' of 8254. 10
5. A) Explain the different ways in which the parameters are passed on to the procedure. Write an interactive assembly language program to find the factorial of a given number using far procedure. 10
 B) Explain the different bus arbitration techniques with their advantages and disadvantages. 10
6. A) Explain the control word format of 8254 and explain it's operation in mode 0 with a neat diagram. 10
 B) Explain any 2 instructions of the following with example. Clearly state the way different flags are affected when they are executed: 06
 A) DAS B) IDIV C) XLAT D) TEST
 C) Explain the following assembler directives: 04
 A) ASSUME B) EVEN
7. Explain the following: 20
 A) IEEE 488 GPIB
 B) Difference between memory mapped IO and IO mapped IO.
 C) RS 232 C Serial interface standard
 D) Memory segmentation in Intel 8086