

III B.Tech II Semester Supplementary Examinations, April/May 2005
MICROPROCESSOR AND INTERFACING
(Mechatronics)

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain various interrupt of 8085 Microprocessor and their priorities.
(b) Explain the
 - i. SID
 - ii. SOD
 - iii. S_0, S_1 ,
 - iv. \overline{INTA} pins of 8085 Microprocessor
2. (a) Explain the flag register of 8086.
(b) Explain the concept of memory segmentation.
(c) Explain, when Queue is failing to speed up the execution.
3. (a) Explain the following Instructions.
 - i. MOV
 - ii. POP
 - iii. XCHG
 - iv. SAHF
(b) Write a program to convert a Binary Number to a BCD Number.
4. (a) Write the sequence of statements that declare the word named NWORD and the FAR label EXTMOD as being external and the variable LWORD and the label LOCMOD as being local and accessible by other source modules?
(b) Give the definition of a macro RESTORE that will pop the register contents that have been pushed in the order AX, BX, CX, DX, SI and DI?
5. (a) It is necessary to move a block of data of length 200H from location 4000H:A000H to location 0B000H:B000H. Write an instruction sequence using string instructions?
(b) Discuss the hierarchical design for a simple text editor?
6. The I/O circuitry in an 8086 based system consists of five I/O devices with one status signal for each device. Design the required hardware providing two address locations to each device, one for status and other for data. In the range 0F00H to 0FOFH. Write an instruction sequence to test the status of each device and store it.

7. Interface a stepper motor with 8-step input sequence to 8086 based system and write the instruction sequence to move the stepper motor 20 steps in clockwise and 12 steps in anti-clockwise direction.
8. (a) Discuss the serial data transmission standards and their specifications?
(b) A terminal is transmitting asynchronous serial data at 2400 bd. What is the bit time? Assuming 7 data bits, a parity bit and 1 stop bit how long does it take to transmit one character?
