

III B.Tech I Semester Supplementary Examinations, May 2005
INTERFACING WITH MICROPROCESSORS
(Common to Computer Science & Engineering and Information
Technology)

Time: 3 hours

Max Marks: 70

Answer any FIVE Questions
All Questions carry equal marks

1. Write short notes on the following:
 - (a) Relative and based addressing modes of 8086
 - (b) Interrupt structure of 8086
 - (c) Use of CALL and RET instructions in executing procedures
2.
 - (a) Write briefly about the importance of the 8086 LOOP instructions.
 - (b) Write an 8086 assembly language program sequence which uses the LOOP instruction to add the contents of M words beginning at the address ARRAY and stores the result in TOTAL.
3.
 - (a) Bring out the importance of using procedures in assembly language programming.
 - (b) What is a recursive procedure ? Write a recursive procedure to calculate the factorial of a number N.
4.
 - (a) Explain the term hand shaking as it applies to computer I/O system.
 - (b) Develop an I/O port decoder, using a PAL16OL8, that generates 16-bit I/O strober for the 16 bit I/O port address 100 DH1001 H.....1003 H.....100 EH.....100FH.
5.
 - (a) What is the advantage of DMA control data transfer over interrupt driven or program control Data transfer? Why are DMA control data transfers faster?
 - (b) With a neat flow diagram, explain sequence of operations for DMA data transfer.
6.
 - (a) Design a circuit to activate a actuator, based on a bit combination given by eight switches interfaced to a microprocessor
 - (b) Design a interface circuit to feed numbers 0-9 through a linearly encoded switches and to display the number on a seven segment LED through a microprocessor
7. Explain write pre-compensation, data separation, phase locked loop and CRC in floppy disk interface.
8. Write a program to initialize 8251 in synchronous mode with even parity, single SYNCH character, 7 bit data character. Then receive FFH bytes of data from a remote terminal and store it in the memory at address 5000 H: 2000H.

Code No: OR310552

OR
