

III B.Tech I Semester Regular Examinations, Nov/Dec 2009
MICROPROCESSORS AND INTERFACING
Common to Information Technology, Instrumentation And Control
Engineering, Electronics And Computer Engineering, Computer Science
And Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain initialization command words and their sequence of operation?
(b) Under what conditions type 0 interrupt is initiated? List out the instructions that may cause type 0 interrupt? [8+8]
2. (a) Explain Static and Dynamic displays? Interface a 4-digit seven segment static display unit through 8255 and write the necessary initialization sequence?
(b) Explain group B ports of 8255 and their use in mode 1 operation? Discuss the hand shaking signals used for this purpose? [8+8]
3. (a) Draw the block diagram of 80386 and explain each block?
(b) List out the enhanced instruction set of Pentium Processor? [8+8]
4. (a) Using REPEAT-UNTIL construct, develop a sequence of 8086 instructions that reads a character string from the keyboard and after pressing the enter key the character string is to be displayed again.
(b) What is a procedure? Give an example to declare a procedure as near? Make this procedure as PUBLIC procedure? [8+8]
5. 8086 processor do not provide memory indirect addressing mode. Show all possible ways to access a word from memory where the segment address is given in location C000H:1000H and the offset is given in location C000H:1002H. Give the instruction sequence for every addressing mode of 8086.? [16]
6. (a) Draw and discuss the formats and bit definitions of the following SFRs in 8051 microcontroller?
 - i. SCON
 - ii. TCON(b) Discuss the following signal descriptions?
 - i. ALE/PROG
 - ii. \overline{EA} / V_{pp}
 - iii. \overline{PSEN}
 - iv. RXD[8+8]

7. Interface 8251 with 8086 at address 0A0H. Initialize it in asynchronous transmit mode, with 7 bit character size, baud rate factor 64, one start bit, two stop bits, even parity enable. Further transmit a message “JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY:HYDERABAD” In ASCII from to a modem? [16]
8. (a) Show the circuit required to generate the upper and lower I/O strobes in minimum and maximum modes of 8086?
- (b) What is the minimum no. of bus cycles that can occur between the time an interrupt request is recognized and the first instruction in the interrupt service routine is fetched. Draw the interrupt acknowledge cycle? [8+8]
