2006 PUNJAB TECHNICAL UNIVERSITY

B.E ELECTRONICS AND COMMUNICAIONS

MICROPROCESSOR AND APPLICATIONS

TIME: 3 HOUR   DECEMBER 2004   MARK: 80

Instruction to Candidates :
1) Section - A is compulsory.
2) Attempt any Four questions from Section - B.
3) Attempt any Two questions from Section - C.

Section - A (Marks : 2 each)

Q. 1 (a) Differentiate between :

(i) Interrupt and Trap

(ii) Memory mapped I/O and I/O mapped I/O

(iii) Serial and parallel I/O

(iv) Microprocessor and Microcomputer

(v) LDA 2000h and STA 2000h

Q. 1 (b) List various modes of 8255.

Q. 1 (c) list various modes of 8254.

Q. 1 (d) What do you understand by Call and Return Instruction?

Q. 1 (e) The contents of A register is 04 h. What will be the contents of A register if a register is rotated right 8 times ?

Q. 1 (f) Why 2's complement method is used for representation of negative numbers in computers?

Section - B (Marks : 5 each)

Q. 2 What do you understand by a microprocessor? What are its components? Draw the block diagram of 8085 microprocessor?

Q. 3 Discuss the various addressing modes of a 8086 Microprocessor with examples.

Q. 4 Write an assembly language program to multiply two unsigned number.

Q. 5 Write an assembly language program to divide 16 bit Unsigned number with 8 bit unsigned number.
Q. 6 Differentiate between RIM and SIM instruction.

Section - C (Marks : 10 each)

Q. 7 Draw the block diagram of 8085 and explain the function of each pin.

Q. 8 (a) Write an assembly language program to transfer 2 k of bytes of data from memory location 2000h onwards to peripheral onwards using DMA controller. Assume CH0 address =d0h, Ch0 TC = d1h, Mode set register =d8h.

(b) List various hardware and software interrupts of 8085 along with their addresses. Give their priority in case of hardware interrupt.

Q. 9 (a) Write down control word in Mode 0 for the following 8255 : Port A Port B Port C
0 0 0
0 0 1
0 1 0
0 1 1   Where 0 stand for output and 1 stand for input ?

(b) Draw the block diagram of 8279 and explain its various block.