2006-PUNJAB TECHNICAL UNIVERSITY

B.E ELECTRONICS AND COMMUNICATION ENGINEERING

MICROPROCESSOR AND ITS APPLICATIONS

TIME-3HOUR
MARKS-100

Instruction to Candidates:
1) Section - A is compulsory.
2) answer all questions from Section - B.

PART A [10*2=20]

Q. 1 (a) What is an addressing mode? What is the use of addressing mode technique in the computer.

Q. 1 (b) How many 128 ? 4 RAM chips are needed to provide a memory of 4096 bytes? How many address lines are needed to access 4096 bytes of memory?

Q. 1 (c) What are characteristics of a RISC processor ?

Q. 1 (d) Distinguish between primary and secondary memory.

Q. 1 (e) What is an interrupt ? List and differentiate any two types of interrupts.

Q. 1 (f) Explain briefly DMA mode of data transfer.

Q. 1 (g) Why is handshaking required between CPU and I/O devices?

Q. 1 (h) What do you understand by instruction format?

Q. 1 (i) List the function of ALU.

PART B [8*10=80]

Q. 2 Explain SIM and RIM instructions of 8085.

Q. 3 If the stack pointer is initialized to 7FFFH and after pushing BC pair and DE pair on to stack, show the contents of stack assuming BC = 2233 H and DE = 4455 H.

Q. 4 Draw a block diagram of a control unit. Explain its operation.

Q. 5 Explain string handling of 8086.

Q. 6 Draw and explain the block diagram of 8086 microprocessor for maximum mode of operation.

Q. 7 Explain the various address modes of 8086 with examples. Explain how the queue speeded up the process operation in 8086.

Q. 8 Explain the functional aspects of 8251 USART chip with a neat block diagram. Explain how do you make use of 8251 to interface CRT data terminal to 8085 CPU.

Q. 9 Draw the block diagram of 8259 PIC. Discuss the advantages and disadvantages of Segmentation of memory in 8086.