May 2007
Microprocessor & Assembly Language Programming
CS-208
(B-Tech. Sem. - 4th, 2057)

M.M: 60   Time. 3Hrs.

Note: - Section A is compulsory. Attempt any four questions from Section B and any two questions from Section C.

Section A   (2 × 10 = 20)

Q1.
(a) Explain the following terms: SSI, MSI, & LSI.
(b) Write note on 8051 chip.
(c) List the four categories of 8085 instructions that manipulate data.
(d) If the memory chip size is 1024×4 bits, how many chips are required to make up 2k bytes of memory?
(e) Draw the timing diagram of memory write cycle.
(f) List three improved features of the 8086 over 8085.
(g) Explain two byte and three byte instructions.
(h) Give the sum and the flag settings for AF, SF, ZF, CF, OF & PF after hexadecimally adding 62A0 to each of the following:
     1) 1234
     2) 4321
(i) How PROM programming differ from ROM programming?
(j) Compare Motorola 68000 with 8086.

Section B   (4 × 5 = 20)

Q2: Write an 8085 based assembly language program to arrange a series of numbers in descending order.

Q3) Write in brief about 8085 registers.

Q4) Draw microcomputer system using 8085 MPU, to memory (EEPROM, RWM), input and output and bus linking to (I/O and memory) peripherals to the MPU.

Q5) Draw the functional block diagram of 8085 microprocessor. Using example explain how an instruction is decoded and executed.

Q6) Explain the function of ALE and IO/M signals of the 8085 microprocessor.

Section C   (2 × 10 = 20)

Q7) Draw the 8085 timing of execution of the 2 byte instruction MVI A,32H (load the accumulator with data 32H) and store in location as follows:

Memory Location	Machine Code	Mnemonics
2000	3E	MVI A, 32H
2001	32	

(a) Write the 8085 mnemonics and the machine code to transfer the program

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sequence to the location 0155H.

(b) Calculate the time required to execute the following two instructions if the system clock frequency is 750 kHz.

MOV C, B 5 T-states

JMP 2050H 10 T-states

Q9. (b) Explain how traffic light system works.