

1108
B.E., (Computer Science and Engineering)
Third Semester
CS-304: Microprocessors

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section.

x-x-x

Q 1. (a) In the following sequence, find the carry flag and what are the contents of the accumulator

2000 STC
2001 MVI A, 01
2003 RAR (2)

(b) Briefly describe the following instructions PCHL, SPHL, XTHL, and XCHG. (2)

(c) Differentiate between memory mapped I/O and I/O mapped I/O (2)

(d) What is subroutine? How we can have subroutines implemented in 8085 MP. (2)

(e) Differentiate between mask able and non- mask able interrupts. (2)

Section-A

Q 2. (a) What are the steps involved in fetching an instruction. Show the timing diagram of an instruction fetch. (5)

(b) Write a program to sort 10 numbers stored from 3500 H location onwards. (5)

Q 3. (a) Write an 8085 assembly language programme to perform a parity check on an 8-bit data stream at location 3000 H. if the parity is odd store DD at 3001 H. however if the parity is even, store EE in 3001 H location. (6)

(b) Show how to interface a memory of 4KB RAM with 8085 MP. Assume the starting address is 2000 H. and we have got chips of size 1KB only. Show the complete memory map. (4)

Q4. (a) What are flags? Discuss the various flags of 8085. (5)

(b) Describe the functioning of various jump instructions with suitable examples. (5)

Section-B

Q 5. (a) Write an 8085 assembly language programme to turn an on LED connected to 4 bit of port B of 8255 PPI. Assume address of port B as 82 H. (5)

(b) Write a brief note on successive approximation A/D converter. Describe interfacing of A/D converter with 8085 with help of suitable diagram. (5)

Q 6. (a) Describe the interrupt system of 8085 with diagram. (5)

(b) Write a programme of a delay of 1 second. Assume the clock frequency of 2 Mhz. (5)

Q7. Write a short note on the following:

(a) 8255 PPI

(b) 8257 DMA Controller

(5,5)

x-x-x