S.E. Sem 4 Etrx. Principles of Microprocessor system 19/12/08

VT Oct 08-157

Con. 5046–08. RC–6104

(3 Hours) [Total Marks : 100

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions from remaining.
(3) Assume **suitable** address and data if **necessary**.

1. (a) Explain any two Instructions during which W and Z Registers are used. 20
(b) What is the difference between I/O mapped I/O and memory mapped I/O scheme.
(c) What is the difference between Polling and Interrupt driven data transfer scheme ?
(d) Generally which two Instructions has to be there at the end of Interrupt service subroutine and why.

2. (a) Explain the following Instructions :– 10
(i) STAX (ii) LHLD
(iii) STA (iv) INR M
(b) Draw the timing diagram for ADD M Instructions which is stored at C200 H. 10
Contents of H-L pair is 1722 H.

3. (a) Write a program for multibyte (4 digit) addition. Assume first No. is stored 10
from C200 H to C203 H (MSB) and second No. is stored from C300 to C303 (MSB). Store the result from C200 H onwards.
(b) What is stock ? Explain its operation with the help of PUSH and POP 10
commands.

4. (a) Explain Interrupt structure of 8085 w.r.t. – 10
(i) Hardware and software Interrupts available
(ii) Vectored locations
(iii) Priority
(iv) Maskable and Non maskable.
(b) Explain the function of following pins of 8085 :– 10
(i) READY (ii) SOD
(iii) ALE (iv) HOLD

5. (a) Write a program to read the Input toggle switches connected at PB0-PB7 10
of 8255 send this status to PA0-PA7. Repeat the procedure after every 0·5 sec. Assume operating frequency 3·07 MHz and address of C.R. is 83 H.
(b) Explain Handshake Input mode of 8155 with relevant diagram. 10

6. (a) Explain Initializing sequence to generate square of 500Hz using counter O of 8253 IC. Assume Input frequency is 1 MHz and address of Control Register is 83 H. 10

(b) Explain ICW1 and ICW2 of 8259 and how address Intervals are decided in it. 10

7. (a) Interface the following peripherals to 8085 operating at 3·07 MHz :– 12

(i) 32 K Bytes of EPROM using 16 K x 8 devices

(ii) 32 K Bytes of RAM using 16 K x 8 devices

Give the address mapping and neat diagram.

(b) Explain different data transfer modes of 8237. 8

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