Department of Computer Science and Engineering, MNIT Jaipur

ETE (Spring 2014-15), IV Sem. CSE: **Computer Organization and Microprocessor** (CST 202)

MM: 50 **Time: 2 Hour**

Q.1 Draw the block diagram of **microprocessor 8085** and explain in detail. (10)

OR

Draw the block diagram of **microprocessor 8086** and explain in detail.

Q.2 Write a program to count from 0 to 9 with a one second delay between each count. At the count of 9, the counter should reset itself to 0 and repeat the sequence continuously. Use register pair HL to set up the delay and display each count at one of the output ports. Assume the clock frequency of the processor is 1 MHz. (10)

Q.3 Differentiate between the followings (by giving proper explanation): (2*5=10)

(a) I/O mapped I/O and Memory mapped I/O, (b) RIM and SIM instructions,

(c) CALL and JMP instructions, (d) Microprocessor and microcomputer,

(e) Vectored and non vectored interrupts of 8085

Q.4 Write short notes on any **four** of the following: (5*4=20)

(i) DMA controller, (ii) Addressing modes of 8086,

(iii) Microcontroller 8051, (iv) Programmable Interrupt Controller 8259,

(v) Synchronous and Asynchronous Data Transfer Schemes.

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ETE (Spring 2017-18), IV Sem. CSE: **Computer Organization and Microprocessor** (CST 202)

MM: 50 **Time: 2 Hour**

Q.1 Illustrate the execution of the instruction **STA 3020H** of 8085, which is stored at memory locations starting from 2000H, by giving the timing diagram. (2+5=7)

Q.2 Draw the pin diagram of **microprocessor 8086** and explain in detail. (8)

Q.3 Explain **Interrupt Driven Data transfer scheme** in detail. Then explain Programmable Interrupt Controller **(PIC)** in this regard. (3+5=8)

Q.4 A string of six data bytes is stored starting from memory location 3000H. The string includes some **blanks** (bytes with zero value). Write a program, in 8085's assembly language; to **eliminate** the blanks from the string and store the remaining data bytes in the memory starting from address 4000H. Data may be assumed as A2, 00, B3, 00, 4C, 97. (8)

Q.5 Differentiate between any **three** of the followings (by giving proper explanation): (3*3=9)

(a) PUSH and POP instructions, (b) RIM and SIM instructions,

(c) CALL and JMP instructions, (d) Microprocessor and microcontroller.

Q.6 Write detailed notes on any **two** of the following: (5*2=10)

(i) **DMA Controller,** (ii) **Addressing modes of 8086,** (iii) **Microcontroller 8051.**

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II MTE (Spring 2017-18), IV Sem. CSE: **Computer Organization and Microprocessor** (CST 202)

MM: 25 **Time: 1 Hour**

Q.1 Draw the **pin diagram** of microprocessor **8085.** Explain following pins of 8085 in detail:
(i) HOLD, (ii) READY, (iii) ALE, (iv) INTR. (2+4=6)

Q.2 Draw the block diagram (internal architecture) of **microprocessor 8086** and explain in detail. (7)

Q.3 Write an assembly language program to find the smallest number in a list of n numbers, starting from memory location 2050H. Store the result at 3050H. (4)

Q.4 Describe any **six (6) addressing modes** of **8086** by giving suitable example of each. (6)

Q.5 Explain how a 16 bit address is converted into a 20 bit address in 8086. Show with an example. (2)

location at the **output ports**, otherwise display FFH at the output port. Assume the numbers are 48, 33, F2, 37, 53, A2, 40, 45. (6)

Q.5 Explain the significance of S0, S1 and IO/$\overline{M}$, by giving their all possible values. (2)

(i) Synchronous data transfer and Asynchronous data transfer, (ii) SIM and RIM,
(iii) Vectored and non-vectored interrupts. (6)

Department of Computer Science and Engineering, MNIT Jaipur

II MTE (Spring 2016-17), IV Sem. CSE: **Computer Organization and Microprocessor** (CST 202)

MM: 25 **Time: 1 Hour**

Q.1 Draw the **pin diagram** of microprocessor **8085.** Explain following pins of 8085 in detail:
(i) HOLD, (ii) READY, (iii) ALE, (iv) RESET IN$^-$, (v) INTR. (2+5=7)

Q.2 Explain the following instructions of 8085 Assembly language in detail: (5)
INX, JPE, ACI, RAL, CPI.

Q.3 Three numbers are stored in memory locations 2050H, 2051H and 2052H respectively. Write a program in 8085 assembly language, to find the largest number among these numbers and store the largest number in memory location 2053H. (5)

Q.4 A set of 08 readings is stored in memory, starting at location 2000H. Write a program in 8085 assembly language to check whether a byte 40H exists in the set. If it does, stop checking and display its memory location at the **output ports**, otherwise display FFH at the output port. Assume the numbers are 48, 33, F2, 37, 53, A2, 40, 45. (6)

Q.5 Explain the significance of S0, S1 and IO/M$^-$, by giving their all possible values. (2)

(i) Synchronous data transfer and Asynchronous data transfer, (ii) SIM and RIM,
(iii) Vectored and non-vectored interrupts. (6)

Department of Computer Science and Engineering, MNIT Jaipur

II MTE (Spring 2015-16), IV Sem. CSE: **Computer Organization and Microprocessor** (CST 202)

MM: 25 **Time: 1 Hour**

Q.1 Explain following pins of 8085 with example:
(i) HOLD, (ii) READY, (iii) ALE, (iv) RESETIN. (4)

Q.2 Draw and explain the timing diagram for instruction **STA 2050H** in detail, which is stored at memory locations 4000H, 4001H and 4002H respectively. (5)

Q.3 Three numbers are stored in memory locations 2050H, 2051H and 2052H respectively. Write a program in 8085 assembly language, to find the largest number among these numbers and store the largest number in memory location 2053H. (5)

Q.4 A set of 08 readings is stored in memory, starting at location 2000H. Write a program in 8085 assembly language to check whether a byte 40H exists in the set. If it does, stop checking and display its memory location at the **output ports**, otherwise display FFH at the output port. Assume the numbers are 48, 33, F2, 37, 53, A2, 40, 45. (5)

Q.5 Explain and differentiate between-
(i) Synchronous data transfer and Asynchronous data transfer, (ii) SIM and RIM,
(iii) Vectored and non-vectored interrupts. (6)

Department of Computer Science and Engineering, MNIT Jaipur

II MTE (Spring 2014-15), IV Sem. CSE: **Computer Organization and Microprocessor** (CST 202)

MM: 25 **Time: 1 Hour**

Q.1 Explain following instructions of 8085 with example:
(i) LDAX, (ii) SHLD, (iii) ACI, (iv) XCHG, (v) PUSH. (5)

Q.2 Illustrate the execution of the instruction MVI A, 33 in detail, which is stored at memory locations 3000H and 3001H, by giving the timing diagram. (6)

Q.3 Two numbers X and Y are stored in memory locations 2000 and 2001 respectively. Compare these two numbers and store the larger number in memory location 3000 and smaller in 3001. Then subtract the smaller number from larger using 2's compliment method and store the result in memory location 3002. Write a program in 8085 assembly language for above problem. (8)

Q.4 Write a program in 8085 assembly language to transfer a block of 09 numbers from memory location 2000H onwards to 3000H onwards in reverse order. Assume that the numbers are already stored in memory. (6)