**Parul Institute of Technology(PIT),PU**

**Mechatronics Engg. Dept.**

**SEM:4 Date:12/02/2024**

**Sub: COMA(203124210)**

**ASSIGNMENT-2**

1. State the function of following instructions/ Explain the following instructions

(1) LHLD (2) XCHG (3) RAL (4) PUSH B(5) DAD H (6) XTHL (7) DAA

(7) PCHL (8) RIM (9) STC

1. How many address lines are necessary on the chip of 2K byte memory?

The memory address of the last location of an 8K byte memory chip is FFFF H. Find the starting address.

1. The memory map of a 4K byte memory chip begins at the location 2000 H. Specify the address of the last location on the chip.
2. Write a program to find whether the given number stored in memory location 8000H is positive, negative or zero. If number is positive place FFH, If number is negative place FEH and if number is zero place FDH in memory location 8050H.
3. The following block of data is stored in memory locations from XX55H toXX5AH. Transfer the data to the location XX80H to XX85H in the reverse order. [Data (H) 22,A5, B2 ,99,FF,37]
4. Write a program to find the largest number in given block of data.
5. Write a program to arrange given 8 numbers in ascending order starting at 2050H.
6. Design a memory system for 8085 such that it contains 8kB of EPROM and 8kB of RAM
7. Design a memory system(memory interfacing) for 8085 such that it contains 4kB of ROM Use all 16 address lines and 74LS138 chip(decoder) with gates to generate address. Determine memory map of the design.
8. Write a program to count continuously in hexadecimal from FFH to 00H in a

system with a clock period of 0.5 μs. Use register C to set up 1 millisecond

delay between each count and display the number at the output port1.

1. Write a program for 8085 to generate a square wave with period of 500μs. Use bit D0 to output the square wave. The system clock period is 325ns.
2. What is Stack and Stack pointer register? Explain the working and use of stack in subroutine program.
3. What is stack and stack pointer? Explain working of PUSH and POP instruction with example.
4. What are interrupts? List and explain the interrupt available in microprocessor 8085?
5. What are the vectored interrupts? Distinguish between the hardware & software interrupts.
6. Explain the function of RIM and SIM instructions.

Note: For programs refer your lab manual/ textbook (Q.4 to 7 and Q.10,Q.11)

**Last date for Submission : 27/2/24**

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**Subject Co-ordinator**