**SIES COLLEGE OF ARTS, SCIENCE & COMMERCE**

**PHYSICS DEPARTMENT (2017-2018)**

**SYB.Sc Paper III Unit 2 (**8085 Microprocessor)

**WORKSHEET-VI**

1. The starting memory address in the 8085 program below is C010H. Write addresses for other instructions taking care of the width of each instruction.

 LXI H, C000H

 MOV A, M

 MVI B, D7H

 ADD M

DCR B

 STA C001H

 HLT

1. Classify the following data bytes as even or odd integer.

80H, 52H, 35H, E8H, 67H, CDH, B8H, 7EH, FFH, 09H.

1. Classify the following data bytes as positive or negative integer.

77H, C5H, A8H, 3EH, FFH, 19H, A1H, 7BH, D5H, F2H.

1. Write the instructions for the following:
2. Exchange the content in HL pair with DE pair of registers.
3. Jump to D200H.
4. Decrement the content in register C.
5. Clear register B.
6. Add A register content to itself.
7. Which of the following methods stores the data E7H into memory location D250H? Picturize before conclusion.

Method 1 Method 2 Method 3

MVI A, E7H LXI H, D250H LXI B, D250H

STA D250H MVI M, E7H MVI A, E7H

HLT HLT STAX B

HLT

1. After an arithmetic operation the accumulator contains 9EH and the carry flag is set .Explain what happens to the contents after the execution of RAL instruction.
2. Write a program in assembly language to load 8FH in memory location C000H. Increment the contents. Then load 5EH in C001H. Decrement the contents and halt the program.
3. Explain the operation performed by using i) ADD A ii) SUB A.
4. Study the following programs written for the 8085 microprocessor and give the contents of A, B, C and D after the execution of each of the instructions. Assume the original contents are 00H.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A | B | C | D |
| MVI A, 00H |  |  |  |  |
| MVI B, F8H |  |  |  |  |
| MOV C, A |  |  |  |  |
| MOV D, B |  |  |  |  |
| HLT |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A | B | C | D |
| MVI C, 9BH |  |  |  |  |
| MOV A, C |  |  |  |  |
| MOV D, A |  |  |  |  |
| SUB C |  |  |  |  |
| MOV B, A |  |  |  |  |
| HLT |  |  |  |  |

ii)

1. Name the 3 buses used for communication in 8085 microprocessor.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*