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

**PHYSICS DEPARTMENT**

**(2017-2018)**

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

**Worksheet – II**

1. Add the following 8 bit numbers and tell which flags are Set.

i) 69H , A7H

ii) 64H , 8CH

iii) 5DH , A3H

iv) 60H , 33H

v) 9FH , 52H

1. Write the category under which following instructions are classified according to functions:

1. ANA B

2. XRA A

3. STA E050H

4. RRC

5. LHLD C970H

6. MVI B, 00H

7. MOV B,D

8. INR M

9. ADD M

10. JMP D000H

1. Write instructions for the following:
2. Set carry flag
3. Complement accumulator content
4. Rotate accumulator left
5. Halt the program execution
6. Double add H
7. Clear accumulator
8. Increment D register content
9. Set HL pair as pointer to C005H
10. Compare D register content with accumulator content
11. Add D content to accumulator content and store result in accumulator
12. If (A) =15H, (B)= 20H, (C)= 88H, what are the contents of A, B and C registers after the execution of each instruction?

MOV B, A

ADD C

MVI C, 89H

SUB A

MOV C, B

HLT

1. Find the difference by 2's complement method

i) 83H - 45H

ii)F5H - 24H

iii)39H - 3CH

iv)D7H - A6H

v)ABH – ABH

1. Add the 8 bit binary numbers
   1. 1010 0011 and 1011 0101. Express the sum in hex system
   2. 1100 1010 and 0111 1100. Express the sum in decimal system
2. Do logical AND , OR & XOR OPERATIONS on the following data

i) 2BH & 59H

ii) 6DH & 51H

iii) 74H & 83H

iv) FFH & 6AH

v) 80H & 21H

1. Write an assembly language program to:
2. Load register A with 2BH. Find 1's complement and store the result in register D.
3. Load register B with D8H. Find 2's complement and store the result in register D.
4. Load register C with 29H. Find 2's complement and store the result in memory location having address   
    F00CH.
5. Load register B with AAH. Load register D with 4FH. Add the 2 data. Store the sum in memory   
    location having address C200H.
6. Subtract 67H from 29H and store the result in register E. Draw a flow chart also.
7. Solve:
8. Can you add 78H to BBH? If yes, get the result as sum and carry.
9. What happens to Z flag after the execution of ANI A, 00H?
10. The data in accumulator is 9CH and carry flag is set. What is the content in acc after the execution of RAR? What will happen to carry flag?
11. Write down 4 numbers following the hex data 28H.
12. In 8085 microprocessor, can you store 16 bit data using the general purpose registers? If yes, justify.
13. Write down 4 numbers following the hex data C00E.
14. Which flags are affected after the execution of  SUB A?
15. Find the width of the instructions: CMA ; STC;  MVI F,80H; XRA A; STA C600H
16. Can you add 2 data, one with 7 bits and another with 6 bits?  Can you perform subtraction on the same 2 data given above?
17. (A)= ACH. (H)=DDH. Which flags will SET after the execution of ORA H ?
18. Find the total number of bytes the following program uses:

LXI H, C040H

MVI C,00H

MOV B, M

MOV A, B

INX H

SUB M

JNC blue

INR C

blue: INX H

MOV A, M

STA C200H

RST 1

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