

# Computer Organization & Assembly Language (LAB)

## Lab Task-1 Total points = 10

The following are random Assembly Language statements. Understand these statements and fill out boxes related to Registers values. You just need to solve these questions on page with same template or take print out and solve on that page. **Submit only picture or PDF of solved lab task.**

**Q. 1: Fill the following table according to Assembly Language instructions execution, Make sure fill all highlighted boxes with proper value according to instruction execution.**

| Line No. | Assembly Instruction | AX | BX | DX |
|----------|----------------------|----|----|----|
| 1        | MOV BX, 15           | 0  | 15 | 0  |
| 2        | SUB AX, 1            | -1 | 15 | 0  |
| 3        | MOV DX, 4            | -1 | 15 | 4  |
| 4        | MUL BX,1             | -1 | 15 | 4  |
| 5        | MOV AX, 23           | 23 | 15 | 4  |
| 6        | DEC BX               | 23 | 14 | 4  |

| Line No. | Assembly Instruction | CX  | AH | DX | AX |
|----------|----------------------|-----|----|----|----|
| 1        | MOV AH, 4            | 0   | 4  | 0  | 0  |
| 2        | SUB CX, 16           | -16 | 4  | 0  | 0  |
| 3        | MOV DX, 27           | -16 | 4  | 27 | 0  |
| 4        | MOV AH,DX            | -16 | 27 | 27 | 0  |
| 5        | MOV AX, 23           | -16 | 27 | 27 | 23 |
| 6        | DEC BX               | -16 | 27 | 27 | 23 |

| Line No. | Assembly Instruction | BH | DX    | AX  |
|----------|----------------------|----|-------|-----|
| 1        | MOV AX, 'a'          | 0  | 0     | 97  |
| 2        | ADD AX,16            | 0  | 0     | 113 |
| 3        | MOV DX, 10011        | 0  | 10011 | 113 |
| 4        | XOR DX, 11111        | 0  | 01100 | 113 |
| 5        | MOV BX, 10101        | 0  | 01100 | 113 |
| 6        | AND DX,BX            | 0  | 00100 | 113 |

**Q.2: Identify the errors in following Assembly instructions and write the correct one in box. If the statement is correct, then just write “it is correct”.**

| <b>Statement</b> | <b>Correct or Incorrect</b> | <b>Correct statement</b>     |
|------------------|-----------------------------|------------------------------|
| ADD 10,20        | <b>Incorrect</b>            | Add AX,10<br>DD AX,20        |
| MOV AX + 5       | <b>Incorrect</b>            | MOV AX, 5                    |
| MOV CL, 150      | <b>Correct</b>              | It is Correct                |
| MOV BH, 257      | <b>Incorrect</b>            | MOV BH, 1 or Mov<br>BX , 257 |