

**COMSATS University Islamabad, Lahore** **Campus**

**Assignment 2– FALL 2020**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course Title: | Microprocessor and Assembly Language | | | | Course Code: | | CSC321 | Credit Hours: | 3(2,1) |
| Course Instructor/s: | Sheeza Zaheer | | | | Programme Name: | | BCS | | |
| Semester: | 4 | Batch: | SP19 | Section: | A, B, C | | Date: |  | |
| **Deadline:** |  | | | | **Maximum Marks:** | | | **25** | |
| Student’s Name: |  | | | | Reg. No. |  | | | |
| **Important Instructions / Guidelines:**   * Be precise and to the point while answering any question. * Show all immediate steps. Every step carry individual mark. * **Cheating will result in negative marking and even worse. Stay honest.** | | | | | | | | | |

1. If AX=8FFF and BX=0FFF and “CMP ax, bx” is executed, which of the following jumps will be taken? Each part is independent of others. Also give the value of Z, S, and C flags. **(Marks 1.5\*4 = 6)**
2. JG greater
3. JL smaller
4. JA above
5. JB below
6. What is the difference between signed jumps and unsigned jumps? In which condition, which jump you prefer to use and why? **(Marks=2.5)**
7. Explain the following instructions of 8086 microprocessor. **(Marks 1\*4=4)**
8. LEA AX, ARRAY
9. Jmp label\_1
10. LOOP
11. .STACK 100h
12. Write an assembly code to convert the number 12348765h to 87654321h. **(Marks 2.5)**
13. Give the flags which are affected after performing the following operations: **(Marks 1\*3= 3)**
14. Shift left
15. Shift Arithmetic right
16. Shift logical right
17. Suppose the stack segment is declared as follows: STACK lOOh. **(Marks 1\*4=4)**
18. What is the hex contents of SP when the program begins?
19. What is the hex content of SP if pop instruction performs in the starting?
20. What is the maximum hex number of words that the stack may contain?
21. What is the hex contents of SP, after insertion of 5 variables in the stack?
22. Write some code to **(Marks 1\*3=3)**
23. Place the top of the stack into AX, without changing the stack contents.
24. Place the word that is below the stack top into CX. Without changing the stack contents. You may use AX.
25. Exchanges the top two words on the stack. You may use AX and BX.