**Quiz – 2**

**Course: CSC325 – Computer Organization and Assembly Language**

**Class / Instructor:** BCS IV / Taimur Shahzad **Time Allowed (min) / Total Marks:** 30 / 10

**Date:** November 10, 2022

**Name: Kulsoom Khurshid Reg. no: SP20-BCS-044**

**1 – [CLO-C2]** Let's assume that the data segment begins at 00124000 h. What will be the value of ESI register after the execution of each of the following instructions:

**.data**

Val1 BYTE 23h, 56h, 92h, 40h

Val2 WORD 0893h, 3428h, ?

Val3 DWORD 1234h, 9876ABCDh

array1 BYTE 1000 DUP (20)

**.code**

mov esi, OFFSET Val1 + 4 ; **ESI = 00124004**

mov esi, OFFSET Val3 + 2 ; **ESI =** **00F4600C**

mov esi, OFFSET Val2 + 9 ; **ESI =** **0012400B**

mov esi, OFFSET array1 + 2 ; **ESI =** **00016014**

Ans:

**ESI =** 00124004

**ESI =** 00F4600C

**ESI =** 0012400B

**ESI =** 00016014

**2 –** **[CLO-C2]** What will be the output after the execution of each of the following instructions:

**.data**

Val1 BYTE 23h, 56h, 92h, 40h

Val2 WORD 0893h, 3428h, 0

array1 BYTE 1000 DUP (20)

**.code**

mov ax, WORD PTR Val1+2 ; **AX = 4092**

mov al, BYTE PTR Val2+1 ; **AL = 08**

mov eax, DWORD PTR array1 ; **EAX = 14141414**

Ans:

**AX =** 4092

**AL =** 08

**EAX =** 14141414

**3 – [CLO-C2]** Spot the error in each of the following instructions in code segment and write correct statement(s).

.data

x byte 10h

y byte 20h

.code

mov bx, x

add x,y

mov [ebx], [esi]

Ans:

INCLUDE Irvine32.inc

.data

x byte 10h

y byte 20h

.code

main PROC

mov bh, x

add bh,y

mov ebx, [esi]

exit

main ENDP

END main

**4 –**  **[CLO-C4]** Write the equivalent code in assembly language for the following statements written in Java:

int a = 16, b = 19, d= 45, e;

e = -1\*(a + b) - d;

INCLUDE Irvine32.inc

.data

a WORD 16

b WORD 19

d WORD 45

e WORD ?

.code

main PROC

mov bx, a

add bx, b

neg bx

sub bx, d

call DumpRegs

exit

main ENDP

END main