COAL
BS DS Fall 2022
Quiz 6

Time allowed: 20 min **Total marks: [4+4+10]**

Roll Number: _____ **Name: _____**

```
.model small
.stack 300h
.data
.code
main proc
        mov ax,@data
        mov ds,ax
        mov dx,0000
        mov ax,0fffh
        mov bx,0005h
        call f1
        call f1
        call f1
        mov cx,ax

        MOV AH,4CH
        INT 21H
main endp
f1 proc
        MUL bx
RET
f1 endp
end main
```

Q1: What will the new values of register after the execution of the code.

CX	BX	DX	Carry Flag
FF83	0005	0004	1

Q2: What will the new values of register after the execution of the same code by changing the MUL BX with **IMUL BX**?

CX	BX	DX	Carry Flag
FF83	0005	FFFF	0

Q3: Given below the following mathematical expressions. Write down the assembly code regarding each expression using a minimum number of instructions. Assume X and Y as word variables and all products will fit in 16 bits.

Y = (X * 4) + (X - 8)	Y = (4 * X - 1) / 8

MOV AX,4
MOV BX,X
MUL BX
MOV BX,X
SUB BX,8
ADD AX,BX
MOV Y,AX
	MOV AX,4
	MOV BX,X
	MUL BX
	SUB AX,1
	MOV BX,8
	DIV BX
	MOV Y,AX
