Name: KEY Id#

COE 205, Term 091

Computer Organization & Assembly Programming

Quiz# 3

Date: Saturday, Dec. 12, 2009

# **Q1.** Fill the blank in each of the following:

# Assume that the instruction JMP NEXT is at offset address 0000005EH in the code segment, its size is 2 bytes, and the label NEXT is at offset 00000020H. Then, the address stored in the assembled instruction for the label NEXT (assuming pc-relative addressing), is NEXT-EIP=00000020-(0000005E+2)= 00000020-00000060=C0.

# 

# Assuming that EBX=0000000C and ESI=00000004, the address of the source operand in this instruction MOV AL, [EBX+ESI\*4-1] is 0000000C+00000004\*4-1=0000001B and its addressing mode is based-indexed addressing mode.

# Executingthe two instructions *{NEG EBX; ADD EAX, EBX}* produces the same result in EAX as the instruction *SUB EAX, EBX.*

# The addressing mode of the source operand in the instruction MOV EAX, offset ARRAY-1 is immediate addressing mode.

# The addressing mode of the source operand in the instruction MOV EAX, ARRAY+1 is direct addressing mode.

# The addressing mode of the source operand in the instruction MOV EAX, [EBX] is register indirect addressing mode.

# Afterexecuting the code shown below, the content of register EAX will be 0000000F.

MOV ECX, 5

MOV EAX, 0

NEXT:

ADD EAX, ECX

LOOP NEXT

# Considering the code below, the content of the following registers after executing the code will be EAX=0000000E and EBX=0000000A.

.DATA

ARRAY DWORD 1, 2, 3, 4, 5

DWORD 6, 7,8 , 9, 10

DWORD 11, 12, 13, 14, 15

DWORD 16, 17, 18, 19, 20

RSIZE EQU SIZEOF ARRAY

.CODE

MOV ESI, 2\*RSIZE

MOV EDI, 3

MOV EAX, ARRAY[ESI+EDI\*TYPE ARRAY]

MOV EBX, ARRAY[ESI-4]