Philadelphia University Faculty of Engineering Department of Computer Engineering		Date:- 6/1/2014 Allowed time:- 60 minutes
Microprocessors Second Exam Student Name: - …….....ID: - ……		

Q1). Mark the correct answer of the followings.

1- Assume ARR is an array of double words which of the following will increment the third element in the array 5 marks

a). inc DWORD PTR [ARR+2]

b). inc DWORD PTR [ARR+ 4]

c). inc DWORD PTR [ARR+6]

d). inc DWORD PTR [ARR+8]

2- the value of eax register after executing the following code is

```
MOV eax,0A2FEh
ADD eax,2
```

a). 0A2FFh b).0A200h c.)0A300h d). 0A3FEh

3- the values of Sign flag and Overflow flag after executing the following code are

```
MOV AX,8000h
ADD AX,1
```

a). SF=0,OF=0

b). SF=0,OF=0

c). SF=1,OF=0

d).SF=1,OF=1

4- LOOPNZ instruction repeats when.

a). ecx=0,ZF=0 b).ecx=0,ZF=1 c).ecx≠0,ZF=0 d.)ecx≠0,ZF=1

5- to clear a specific bit(s) in a number we can use.

a.)AND b.)OR c).NOT d). XOR

Q2). Write the values of the Carry, Sign, Zero and Overflow flags after executing the following instructions 6 marks

MOV AX,7FF0h

ADD AL,10h	CF=	SF=	ZF=	OF=
ADD AH,1	CF=	SF=	ZF=	OF=
ADD AX,2	CF=	SF=	ZF=	OF=

Q3). Write the instructions that perform the following operations 3 marks

1- Jump to label L1 if the unsigned integer in BX is greater than or equal the integer in CX

2- Clear bits 3 and 4 in AL register then if the result is Zero jump to L2, otherwise jump to L3

3- Clear the lower half of DX register and do not change the upper half.

Q4). Write a program that define a 2 arrays of 10 integers for each, initialize one of them by number of your choice. Your program should add 1 to the absolute value of the elements in the first array and store the results in the second array. 6 marks