EE213 Computer Organization and Assembly Language
Quiz II (GR1 | GR2) – Spring 2018
Paper-A Solved

Student Name: _____ Roll No. _____ Date: _____

1. **Write a procedure that replaces the number in AX by its absolute value. (5 points)**

Sol:

```
PROC sample
   CMP AX,0
   JL NEXT
   RET
   NEXT:NEG AX
   RET
sample ENDP
```

2. **In the following instruction sequence, show the resulting value of AL where indicated, in hexadecimal: (5 Points)**

```
mov al,10h
not al                  ; a.0EFh
mov al,31h
and al,74h              ; b.30h
mov al,9Bh
or al,53h               ; c.0DBh
mov al,18h
test al,81h             ; d.18h
mov al,7Ah
xor al,0CDh             ; e.0B7h
```

3. Given that EAX = 05h, EBX = 0Ah, ECX = 0Ah, EDX = 00h, SP = 010Ah. Fill in the table. (10 Points)

```
      main PROC
0001    SHL AL, 2
0002    PUSH EAX
0003    PUSH EBX
0004    CALL f1
0005    MUL CX
0006    POP EBX
      main ENDP
```

```
      f1 PROC
000C    SHR CL, 1
000D    INC AX

000F    ROL BX,2
0010    CALL f2
0011    ROR AX,CL
0012    ret
      f1 ENDP
```

```
      f2 PROC
0017    MUL CX
0018    INC EDX
0019    PUSH EDX
001A    PUSH ECX
001B    POP EDX
001C    POP ECX
001D    ret
      f2 ENDP
```

	IP	SP	AX	BX	CX	DX
After Instruction at 0004	**000Ch**	**00FEh**	**0014h**	**000Ah**	**000Ah**	**0000h**
After f2 completes execution	**0011h**	**00FEh**	**0069h**	**0028h**	**0001h**	**0005h**
After main completes execution		**0106h**	**8034h**	**000Ah**	**0001h**	**0000h**