Dr. Sheikh

King Fahd University of Petroleum & Minerals
Electrical Engineering Department
EE-390; Exam-1(062); 2nd April, 2007

Prob.1	Prob.2	Prob.3	**Total**

Answer the following questions in 1.30 hour

Name ***:*** Section ***:*** ***I.D.***

1(a). Write a program that will make the contents of carry-flag and even Bits of AL register, same as the content of Bit 2 of AL register and MASK the contents of the remaining Bits of AL. Don't assume the Hex number stored in AL register (as it can have any Hex value)

AL =

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0

(***Use as many lines as needed)***

Line 1:_____ Line 6:_____

_____ _____

_____ _____

_____ _____

_____ _____

1(b). 8088 microprocessors have _____ bit address bus.

1(c). The following instruction is valid or invalid: MOV AX,IP ➔ _____

2(a) . Write a program that will perform the following integer multiplication,

'- AL' * '- BL' and store the answer in memory location DS:0020_H

(***Use as many lines as needed)***

_____

_____

_____

_____

_____

_____

_____

2(b) Using **<u>one line</u>** of code, load the contents of memory location ES:$123A_H$ into the extra segment register (ES) of the microprocessor.

_____

2(c). The DEBUG command used to view the machine code of any assembly language instruction is: _____

3(a) Find the values of the register's, as you execute **each line** of the program.
Assume the initial values are: AX= 1234_H, BX=$5F88_H$, CX=1403_H, DX=0125_H,
SI=$003B_H$, ZF=NZ , PF=PO *and* CF=CY

LEA AX, [5678_H] ;	PF = _____
SBB BX, CX ;	BX = _____
RCR DX, CL ;	DX =_____
AAA ;	AL =_____

3(b). Assume, **DS=CS=SS=ES=2000_H, AX=0400_H, BX=0500_H, CX=0600_H**
DX=0600_H, SI=0700_H, DI=0400_H, BP= 0020_H, SP=$0AF0_H$,

(i) Write a program to load **AX** register with the word content of physical-Address, $20C62_H$, using **Based-indexed** addressing mode.

_____

(ii) Write a program to exchange the contents of AX-register and CS-register

(***Use as many lines as needed)***

_____

_____

_____

_____