EE213 Computer Organization and Assembly Language

Quiz I – Fall 2019

September 18, 2019

**Paper-A**

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Roll#\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Assuming the following data segment starts at **0000 1F10h**, answer the following questions: [**6 Points**]

.data

val32 LABEL DWORD

var1 WORD 0F00Fh, 2 DUP (0FD1h, 1F0Dh)

var3 DWORD $

.code

MOV EAX, PTR DWORD [val32+3]

INC AL

MOV EDX, EAX

XCHG AL, AH

XCHG DX, WORD PTR [var3 + 1]

1. What does **EAX**, and **EDX** contain after the above code gets executed?
2. Draw out the **var3**’s memory look up (byte by byte) after above code gets executed.
3. Fill in the blanks: [**2 Points**]
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a block of consecutive memory bytes, identified by a base address.
5. The ECS register is used to store the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. In 32-bit mode, aside from the stack pointer (ESP), \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ register points to variables on the stack.
7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ register contains the address of the next instruction to be executed.
8. Complete the given diagram. [**4 Points**]

