TER SYSTEMS ARCHITECTURE -

Written exam - February 9, 2015

division which are the cases considered

the assembly language over

**programmer and overflow situations?**

data segment

a10 w 255 256

112 times 4 dhe 256 a13 times 128

times 2 dd 12345678 28 de 256 256 256256h -

**data ends cere are cate elements of source per ceosonarenore further that values of lines in providing the requested**

serve unes which you consider to be syntactically incorrect motivate and

**efect on the ESX register criterium (which must be explained and justified)**

**S trons sequences in a number of categories based on the identica 21. les eox 10x6]**

8). movex ebxx6 9) add x6, movzxebox - 10). mov leby, dword ( 6)

11), add ebx 6 - 5) movebt ebx46 -

12). add x 6 6. movebebx61

13).push (ex 6: pop ex 71. movex ex (ex+6)

14). Achs ex lexol

**For example (types of possible answers)si).all the instructions have the same effect on the tox register (so we have**

Each instruction has a different effect on EBX (so in this case we have though 10 categories), i). Instructions and one category (because they accomplish.... etc) and 1, 3 and 7 another category (having the effect..) etc... Riving all the reasons. Explain in detail which is the effect of each given instruction and based on these explanations provide and required dassification.

**b). The following ASM sequence is given:**

cld

(9502) spop Ax

push ax mov ax, (esp+2] => stosw lea edi, (edi-2] add esp,4

as the given sequence he same effect is accomplished

Write one single ASM Instruction having the same effect as the given ; (except the value from AX) and explain/justify why the same effect is ac

**IV. A string of quadwords is defined in the data segment. The degree of an element is defined as being**

= 111 111b has the degree 2). It is required to build distinct sequences from its binary representation (ex.

ch will contain the inferior doublewords that have the degree at least 2 from each qword. Print on the nts of the resulted string. Explain and justify the algorithm and its implementation and comment acco

Stample: If the given string is sir dq 1110111b, 100000000h, OABCD000207FCW, 5 The resulted string is

rez dd 1110111b, 0002E7FCh On the screen will be printed

1110111 101110011111111100

**being the number of .111" ed to build as a result a string mt on the screen in base 2 the ment accordingly the source code**

**working time: 2h 30'**

Evaluation: 1-2p; 11 - 1.5p; III -2.5p; IV - 3p; (\*\*

*V-3p; (+1p - by default)*