

(CSCI 365) Exam One Review

Note: Exam One covers Chapter 1, 2, and 3. The test will consist of two parts. Part I consists of MC/MA/TF questions, which come from the same pool of your homework. So review homework, and understand why the answer is correct, is very important. Part II consists of short answer questions. It could be coding, calculation (show work), or concepts. Make sure you understand how to do the following sample questions. The real test questions may not be the same as the sample questions. However, know how to do sample questions will improve your real test grade for sure.

Concepts from Chapter 1

1. Virtual machine and its levels (page 9)
2. Binary numbers and its convention to/from decimal
3. Hexadecimal and its convention to/from decimal/binary
4. Add and subtract binary/hexadecimal numbers
5. Two's complement
6. Boolean expression and truth table

Concepts from Chapter 2

7. Basic design of microcomputer (page 33—34)
8. Instruction execution cycle (page 34—35)
9. General purpose registers (page 39)
10. Special uses for general purpose registers (page 40)
11. Control flags and status flags (page 40)
12. Three basic modes of operations and memory management mode (page 37, 42)
13. Level of I/O access (page 48)
14. Programming at multiple levels (page 48)

Concepts from Chapter 3

15. Basic language elements (page 54 – 62)
16. Be able to write/run a simple code
17. Understand listing file
18. Define data
19. Declare variables with/without initial value
20. Symbolic constants (=, EQU, TEXTEQU)
21. Calculate array size by using \$
22. Difference between 64-bit programming and 32-bit programming (page 88—89)

Sample Short Answer Test Questions

Sample Short Answer Questions (8-10 similar questions may show up in real test)

1. Write one line of code to end the program

2. Write one line of code to move hexadecimal number A6 to eax register
3. Write one line of code to add number 6 to eax register
4. Create a variable named sum of type dword and initial value is 0
5. Write one line of code to copy the contents of variable sum to eax
6. Create a string "Good Morning" and name it as greeting
7. Create a DWORD array of 10 elements named smallArray with all elements initialized to be 1
8. Write a statement that causes the assembler to calculate the number of bytes in the following array, and assign the value to symbolic constant named ArraySize:
myArray WORD 20 DUP(?)
9. Use TEXTEQU to assign the symbol SetupESI to the following line of code:
Mov esi, OFFSET myArray
10. Declare a string variable containing word "TEST" repeated 500 times
11. Show the order of individual bytes in memory (lowest to highest) for the following double word variable: val1 DWORD 87654321h
12. Declare a 32-bit signed integer variable and initialize it with the smallest possible negative decimal value.
13. Declare an array of byte and initialize it to the first 5 letters of the alphabet
14. Write 8-bit two's complement representation of number -5