Name: KEY **Id#**

COE 205, Term 101

Computer Organization & Assembly Programming

Quiz# 1

Date: Saturday, October 9, 2010

Q1. Fill the blank in each of the following:

1. There is one-to-one correspondence between assembly and machine language.

2. Assembly language is a programming language that uses symbolic names to represent operations, registers and memory locations.

3. One advantage of programming in high-level language is that programs are portable.

4. One advantage of programming in assembly language is having smaller code size and faster execution time.

5. It is more appropriate to use assembly language for developing hardware device drivers.

6. An assembler is a program that converts source-code programs written in assembly language into object files in machine language.

7. The instruction set architecture of a computer consists of the instruction set, programmer accessible registers and memory.

8. With a 20 bit address bus, the physical address space is 2^{20}=1 MByte.

9. The advantage of DRAM over SRAM is that it is denser while the disadvantage is that it is slower.

10. Cache memory is used to help bridge the gap between CPU and memory performance.

11. Part of the disk access time, seek time is the time for moving the head to the desired track while rotational latency is the time for rotating the disk to the desired sector.

12. The unsigned binary number 10100101 represents the decimal value 165.

13. The unsigned decimal number 500 is represented in binary as 111110100.

14. Assuming 8-bit representation, the signed number -30 is represented in sign-magnitude as 10011110 and in 1's complement as 11100001 and in 2's complement as 11100010.

15. Assuming 2's complement representation, the 12-bit number FD0 represents the decimal value -48 and is represented using 16-bits as FFD0.

16. Assuming 2's complement representation, the operation FFE1 – 7FE0 produces the result 8001 and overflow = 0.

17. Assuming 8-bit 2's complement representation, the smallest number that can be represented is -128 in decimal and 10000000 in binary.

18. Assuming that an 8-bit register contains the hexadecimal value C5 representing a character, the character stored is E and the parity used is even. Note that the ASCII code of character 'A' is 41h.