Name: KEY Id#

COE 205, Term 091

Computer Organization & Assembly Programming

Quiz# 1

Date: Wednesday, Oct. 21, 2009

# **Q1.** Fill the blank in each of the following:

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

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

# Assemblers translate assembly to machine code while Compilers translate high-level programs to machine code.

# Three advantages of programming in high level language include Program development is faster, Program maintenance is easier, and Programs are portable.

# Two advantages of programming in assembly language include Accessibility to system hardware and Space and Time efficiency.

# The Linker combines program's object filewith other object files and link libraries, and produces a single executable program.

# The Instruction Set Architecture provides a hardware/software interface.

# With a 32 bit address bus, the physical address space is 232=4GByte.

# Dynamic RAM is denser and cheaper than static RAM but slower.

# Cache memory is used to bridge the CPU-memory performance gap.

# Seek time is the time of head movement to the desired track while rotation latency is the time of disk rotation until desired sector arrives under the head.

# The decimal number 1000 is represented in binary as 11 1110 1000 and in hexadecimal as 3E8.

# Using 16 bits, the range of represented unsigned numbers is 0 to +(216-1) while the range of 2’s complement signed numbers is -215 to +(215-1).

# Using 8-bit 2’s complement, the number F0 represents the decimal value -16.

# Assuming 16-bit 2’s complement representation, the operation FFF2 – 7FFF produces the result 7FF3 and will set the over flow flag to 1 and the carry flag to 0.

# 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 61h.