Name: KEY Id#

COE 205, Term 092

Computer Organization & Assembly Programming

Quiz# 1

Date: Saturday, March 6, 2010

# 

# **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.

# Assemblers translate assembly language to machine language while compilers translate high-level language to assembly or machine language.

# The opcode field in an instruction specifies the particular operation that is to be performed.

# Two advantages of programming in high level language include Program development is faster and Programs are portable.

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

# Use of assembly language is more appropriate than high level language for the following type of applications: hardware device driver and Embedded systems and computer games requiring direct hardware access.

# The linker is used to combine program's object filewith other object files and link libraries, and produce a single executable program.

# The debugger allows the tracing of program execution and the ability to view code, memory and registers.

# The instruction set architecture of a computer consists of the instruction set, Memory and programmer-accessible registers.

# The control unit generates the control signals required to execute instructions.

# With a clock frequency of 2 GHZ the clock cycle time is 0.5 ns.

# With a 36 bit address bus, the physical address space is 236=64 GByte.

# The CPU-Memory interface consists of address bus, data bus and control bus.

# In 1980, there was no need for having a cache memory because there was no performance gab between CPU and memory performance.

# DRAM is slower than SRAM because it needs refreshing and is denser because each cell is based on one transistor and a trench capacitor vs. 6 transistors in each SRAM cell.

# Cache memory is a very fast type of RAM that is used to store information that is most frequently or recently used by the computer.

# The disk access time is computed based on seek time, rotation latency and transfer time.