

Name:

Id#

COE 301/ICS 233, Term 171

Computer Architecture & Assembly Language

Quiz# 1

Date: Thursday, Oct. 5, 2017

Q1. Fill the blanks in the following questions:

- (1) Assuming 8-bit unsigned representation, the hexadecimal number 3A is equal to the decimal number _____.

- (2) Assuming 16-bit signed 2's complement representation, the hexadecimal number FE00 is equal to the decimal number _____.

- (3) The instruction pointer is a register that holds the _____
_____.

- (4) Program portability is an advantage of programming in _____ language.

- (5) Having faster executing programs is an advantage of programming in _____ language.

- (6) With a 24-bit address bus and 128-bit data bus, the maximum memory size (assuming byte addressable memory) that can be accessed by a processor is _____ Byte and the maximum number of bytes that can be read or written in a single cycle is _____.

(7) A typical memory hierarchy is composed of _____.

(8) Dynamic RAM is slower than static RAM because _____.

(9) Assuming that the CPU has just read a 32-bit MIPS instruction from the address 0x004001FC, then, the address of the next instruction that this CPU is going to read is _____.

(10) Given a magnetic disk with the following properties:

- Rotation speed is 7200 RPM (rotations per minute)
- Average seek = 8 ms, Sector = 512 bytes, Track = 200 sectors

The average time to access a block of 100 consecutive sectors is _____ ms.

(11) The binary number 1110 0111 represents character _____, and uses an _____ parity bit. Note that the ASCII code of character **A** is 41H and that of character **a** is 61H.