大同大學 八十九 學年度 轉學考試 試題

考試科目:**計算機概論**　　系別:**資訊工程學系**　　

註:本次考試不可以參考自己的書籍及筆記； 不可以使用字典； 不可以使用計算器。

PART 1.

(40%) Choose the most suitable answer in each question. **The wrong choice will get a −2 points until the total points in this part is zero.**

1. The binary notation of the decimal integer 2001 is
   (a) 11111010001 (b) 01111010001 (c) 11111011001 (d) 01101010101

2. The hexidecimal notation of the decimal integer 2005 is
   (a) 6F3 (b) 8D1 (c) 7D5 (d) 7C5

3. The 8-bit two's complement notation of the decimal integer −78 is
   (a) 10101010 (b) 11001110 (c) 10111010 (d) 10110010

4. The decimal notation of the summation of two 8-bit two's complement binary 01101101, 10011010 is
   (a) 7 (b) -121 (c) -7 (d) 121

5. Which step isn't one of the machine cycle?
   (a) Fetch (b) Decode (c) Execute (d) Reset

6. Which connection standard is belong to parallel communication?
   (a) USB (b) IDE (c) IEEE 1394 (d) RS-232

7. What program will be executed first when a computer is turned on?
   (a) bios.sys (b) command.com (c) ROM bios (d) bootstrap

8. The observation results in what structure is often being referred to as first-in-first-out.
   (a) stack (b) list (c) queue (d) tree

9. What standard is with most high throughput between PC's motherboard and its add-on cards?
   (a) PCI (b) AGP (c) ISA (d) IEEE 1394

10. Which keyword isn't belong to ANSI C?
    (a) then (b) goto (c) break (d) union

PART 2. Answer the following questions briefly.

1. (6%) Order the following memories based on speed: cache, registers, and RAM.

2. (6%) Write a statement in C language to convert a numerical character (*i.e.*, '1', '5', ...) to binary. Assume the character is coded in ASCII.

3. (12%) Fill the following blanks in the table.

operand	operation	template	result	comment
11011011	AND	00011000	00011000	mask
	?	?	11011111	set
	?	?	00011011	reset

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4. (12%) The pattern in which the machines in a network are connected is known as the network's topology. List out at least **three** topologies.

5. (6%) Identify at least two major components of an operating system.

6. (18%) Complete the following C program to find the maximum and average values of an array with positive values. The statement(s) in each blank should be as simple as posible.

```
#include <stdio.h>
#define LENGTH 50

main ( void )
{ int  score[LENGTH];
  int  maxval=-1, sum=0, i;

  initarray( score );  /* Initialize the array */
  for( _____ ) {
    if( score[i] > maxval )
      _____
    _____
  }
  printf( "The maximum value is %d\n", maxval );
  printf( "The average value is %d\n", sum / LENGTH );
}
```