

大同大學 九十四 學年度 轉學考試 試題

考試科目：計算機概論 系別：資訊經營學系 第 1 頁，共 1 頁

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。

1. What is the Von Neumann machine? (10%)
2. What is the difference between system software and application software? (10%)
3. What is the difference between pipelining and parallel processing, what is the very necessary hardware modification required from a simple system to accomplish each above function? (10%)
4. List and explain all the memory hierarchy approaches used in a computer system. (10%)
5. What is the Internet, what has the Internet had a tremendous impact on our life? (10%)
6. (a) $178_{10} = ?_2 = ?_8 = ?_{16}$ (6%)
(b) By 2's complement 16-bit binary representation, $-178_{10} = ?_2$ (2%)
(c) $01011010_2 = ?_{10}$ (2%)
7. If you want a 1024*768 with 32-bit color display then how many MB of video RAM should have at least. (3%)
8. Find the error in each of the following program segments and correct the error. (12%)
 - (a) `#include <iostream.h>;`
 - (b) `arraySize = 0; // arraySize was declared const`
 - (c) `int b[10] = { 0 };`
`for (int i=0; i<=10; i++)`
`b[i] = i;`
 - (d) `int a[2][2] = { {1,2}, {3,4} };`
`a[1,1] = 5;`
9. Write C/C++ statements that perform the following array operations. (16%)
 - (a) Initialize the 10 elements of 5-by-2 integer array *counts* to zero.
 - (b) Add 1 to each of the 15 elements of 3-by-5 integer array *bonus*.
 - (c) Read 12 values for float array *monthlyTemperatures* from keyboard.
 - (d) Print 5 values of the sum of 5 columns for 3-by-5 integer array *Scores*.
10. Refer to the following statements: (9%)

```
int sum = 0, count;  
for (count = 1; count <= 4; count++)  
    sum += count;  
cout << "sum = " << sum << endl;
```

 - (a) What would you see in the screen after these statements executed?
 - (b) What is the value of *count* after execution?
 - (c) How many times is the for loop repeated?