

※注意：請於答案卷上依序作答，並應註明作答之大題及小題題號。

1. (10%) Try to compare and contrast Client/Server Network with Peer-to-Peer Network.
2. (20%) In your own words, briefly explain the following terms:
  - (a) USB
  - (b) MPEG-4
  - (c) Unicode
  - (d) RFID System
  - (e) Flash Memory
3. (10%) The most common blunder people make when the topic of a computer virus arises is to refer to a worm or Trojan horse as a virus. While the words Trojan, worm and virus are often used interchangeably, they are not the same. Viruses, worms and Trojan Horses are all malicious programs that can cause damage to your computer, but there are different. Try to list those differences among them that can help you to better protect your computer from their often damaging effects.
4. (20%) Find the sum of the following two's complement numbers (one byte is used for storage.) Indicate if an error has occurred. Convert each number to its decimal equivalent to check your results.
  - (a)  $01011011 + 01011010$
  - (b)  $11111000 + 11111111$
5. (20%) Using any high-level programming language to write a program to find the perfect numbers between 1 and 10000. A (positive) integer number is said to be "perfect" if it is the sum of all the numbers that evenly divide it except for itself. The first 2 perfect numbers are
$$6 = 1 + 2 + 3$$
$$28 = 1 + 2 + 4 + 7 + 14$$

接 背 面

6. (20%) To consider the function below:

```
int fun(int m, int n )
{
    int a;
    if((m == n) || ( n == 0))
        a = 10;
    else
    {
        a = fun(m-1, n-1) + fun(m-1, n);
        printf("%d , %d\n", m, n);
    }
    return a;
}
```

- (a) Assume `int answer = fun(4, 3)`. What's the value of `answer` ?  
(b) What is the output while we call `fun(4, 3)` ?

試題必須隨卷繳回