

※ 考生請注意：本試題不可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

1. (10%) What is a Multi-core processor (多核心處理器)? And what is the difference between the Multi-core processor and the Multi-processor?
(10%) Does a four-core process faster than a two-core process? And why?
2. (20%) Briefly describe the following terms:
 - (a) ARM architecture for CPU
 - (b) VPN (Virtual private network)
 - (c) Stream media
 - (d) Inheritance of OOP (Object-oriented programming)
3. (8%) Describe the major functions of an OS (operation system) in the computational system.
(12%) And illustrate four different OS currently used in the commercial market.
4. (20%) Use bubble sort (also referred as sinking sort) to write a program with any language you know (or pseudocode) to sort a list of numbers. Include the necessary comments in the program to explain your procedure.
5. (20%) What sequence of numbers would be printed by the following recursive procedure if we start it with $N=3$?

```
procedure MysterPrint (N)
  if (N > 0) then {
    print (N);
    MysterPrint (N-2);
  }
  print (N+1);
  return;
```