



南台科技大學 101 學年度研究所考試入學招生考試

系組：資管所

准考證號碼：

科目：計算機概論(311)

(請考生自行填寫)

注意事項	<p>一、請先檢查准考證號碼、報考系(組)別、考試科目名稱，確定無誤後再作答。</p> <p>二、所有答案應寫於答案紙上，否則不予計分。</p> <p>三、作答時應依試題題號，依序由上而下書寫，作答及未作答之題號均應抄寫。</p>
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1. Explain the following items: (30%)

- (a) Botnet
- (b) Booting process
- (c) Web 2.0
- (d) UML
- (e) cloud computing
- (f) compilation and interpretation

2. Given an iterative function to sum a list of numbers as follows.

```
float sum(float list[ ], int n)
{
    float tempsum = 0;
    int i;
    for(i=1; i < n; i++)
        tempsum += list[i];
    return tempsum;
}
```

Determine time complexity count when the function ends? (10%)

3. In terms of the relations shown below, what is the appearance of the relation RESULT after executing each of these instructions:

X relation		
U	V	W
A	Z	5
B	D	3
C	O	5

Y relation	
R	S
3	J
4	K

- (a) RESULT ← SELECT from X where W=5? (5%)
- (b) RESULT ← JOIN from X where X.W=Y.R? (5%)

4. Based on the OSI (Open System Interconnection) model, briefly describe the seven layers of the ISO standard for worldwide computer communications.(14%)

5. Using one's and two's complement method, represent respectively the following integer numbers:
(a) +18 (b) -18. (10%)
6. Based on the von Neumann model, briefly describe the four computer hardware subsystems.(11%)
7. Given the following expression: $A*(B+C)/D$
- (a) What is the postfix expression of the expression? (5%)
 - (b) What is the content of stack after the operand C is read in postfix transformation? (5%)
 - (c) What is the binary tree of the expression. (5%)