

國立宜蘭大學

101 學年度研究所碩士班考試入學

計算機概論試題

(資訊工程研究所碩士班)

准考證號碼：

《作答注意事項》

1. 請先檢查准考證號碼、座位號碼及答案卷號碼是否相符。
2. 考試時間：100 分鐘。
3. 本試卷共有 6 大題，共計 100 分。
4. 請將答案寫在答案卷上。
5. 考試中禁止使用大哥大或其他通信設備。
6. 考試後，請將試題卷及答案卷一併繳交。
7. 本試卷採雙面影印，請勿漏答。
8. 應試時不得使用電子計算機。

1. (10%)
 - (1) Please produce any three topologies of computer networks.
 - (2) Draw the diagrams and explain the differences between them briefly.

2. (10%)
 - (1) Please give any three formats of media content and explain them briefly.
 - (2) How many bytes of memory occupied by a 1024x768 pixels full color image?

3. (20%)

Parameters are classified into three modes, 1. Call by address, 2. Call by value and 3. Call by reference.

 - (1) Please explain parameter passing by examples of three modes briefly
 - (2) What would be the results of call_by_Mode function (test [element]) when the parameters are passed by three modes.

```

element    : Integer
test       : Integer array of size 2
    
```

```

function call_by_Mode(x: Integer)
{
    test[1] := 6;
    element :=2;
    x       :=x+3;
}
    
```

```

function Main ()
{
    test[1] :=1;
    test[2] :=2;
    element :=1;
    call_by_Mode (test[element]);
}
    
```

Mode	Results		
	test[1]	test[2]	element
Call by address			
Call by vale			
Call by reference			

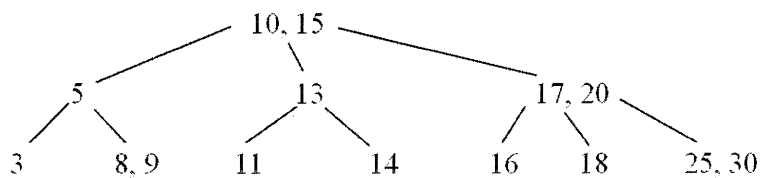
4. (20%)

- (1) Please explain multiprocessing and multitasking briefly.
- (2) What is the difference between them?

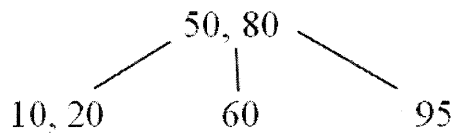
5. (20%)

Please answer the following terms.

- (1) Please define 2-3 tree.
- (2) What is the result of inserting 32 into the following 2-3 tree.



- (3) What is the result of deleting 60 from the following 2-3 tree.



- (4) What is the result of deleting 95 from the result of (3).

6. (20%)

Please convert the following graph into any two data structures in details and explain the differences between them.

