

# 國立臺北科技大學

九十三年學年度自動化科技研究所入學考試

## 計算機概論試題

填准考證號碼

第一頁 共一頁

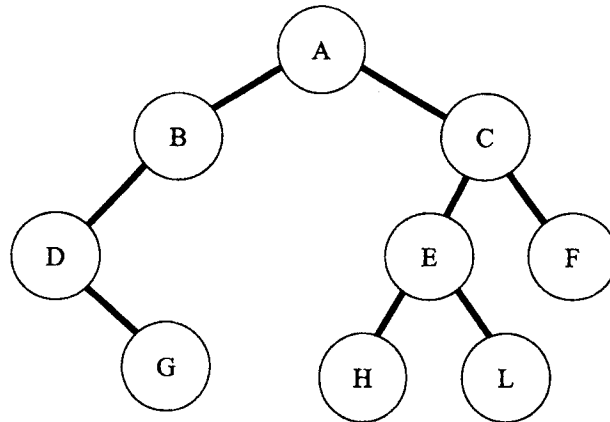
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### 注意事項：

1. 本試題共 8 題，配分共 100 分。
2. 請按順序標明題號作答，不必抄題。
3. 全部答案均須答在答案卷之答案欄內，否則不予計分。

1. For the following 2's complement encoded bit patterns, what are their hexadecimal and decimal representations? (10%)  
a) 10001000 b) 01000100 c) 11110000 d) 11111111 e) 00000000
2. How can semaphore be used to achieve mutual exclusive? (10%)
3. What is "overload" in object oriented programming? What is "override" in object oriented programming? (10%)
4. Describe the concept of how Java programs can be run on multiple platforms. (10%)
5. What is the difference between a big-endian and little-endian data representation? (10%)
6. Explain the following terms: (25%)
  - a) von Neumann architecture
  - b) Harvard architecture
  - c) Stack
  - d) Queue
  - e) AVL-tree

7. For the binary tree diagram shown, what is the traversal order by applying preorder, inorder and postorder. (15%)



8. For the C program listed below, what will be shown on console when the program is executed ? (10%)

```
#include <stdio.h>
void fun1(int *n);
void main()
{
    int x = 12;
    int *y;

    y=&x;
    fun1(y);
    printf("x = %d \n",x);
}
void fun1(int *n)
{ *n = *n++ + --*n -*n; }
```