

科目 計算機概論 類組別 A-4 共 4 頁第 3 頁 *請在試卷答案卷(卡)內作答

Part II (60%). 第 21-30 題為問答題

21. (6%) What is the output of the following C program?

```
#include <stdio.h>
void SomeFunction (const int [], int);
int main ()
{
    int a[] = {1, 3, 5, 7, 9, 11};
    SomeFunction(a, 5);
    return 0;
}
void SomeFunction (const int b[], int c)
{
    if (c > 0) {
        SomeFunction(&b[1], c - 1);
        printf("%d\n", b[0]);
    }
}
```

22. (6%) Rewrite the following C program segment using the **do/while** structure.

```
for (i = 0; i < 6; i++)
    counter++;
```

23. (6%) The following table represents a tree stored in a machine's memory. Each node of the tree consists of three consecutive memory cells. The first memory cell contains the data (a letter), the second contains a pointer to the node's left child, and the third contains a pointer to the node's right child. A value of 0 represents a NULL pointer. Suppose the value of the root pointer is 22. Draw a picture of the tree.

Address	Content
-----	-----
10	A
11	16
12	0
13	B
14	0
15	19
16	C
17	0
18	0
19	D
20	0
21	0
22	E
23	10
24	13