

大同大學 九十二 學年度研究所碩士在職班入學考試試題

考試科目：計算機概論

所別：資訊經營研究所

第 1/1 頁

註：本次考試 不可以參考自己的書籍及筆記； 不可以使用字典； 不可以使用計算器。

- (6 %) List three common types of network transmission media (conducted). How do they differ (e.g., typical use, data transmission rate, cost, and types of signal, etc.)?
- (6 %) Compare and contrast *asynchronous* communication and *synchronous* communication.
- (6 %) What is an operating system and what are its major functions?
- (6 %) What are the differences between a *compiler*, an *interpreter*, and an *assembler*?
- (6 %) What is meant by artificial intelligence? Briefly explain "fuzzy logic."
- (8 %) Define *data*, *information*, and *knowledge*. Give examples to distinguish each.
- (8 %) Compare and contrast a *data warehouse* and a *database management system*. How are they similar? How are they different?
- (8 %) Explain how computers store graphic images and digitized sound in binary notation.
- (8 %) Compare the *traditional SDLC* approach and *prototyping* approach to systems development. State application conditions that favor each of them.
- (8 %) What is *call by value*? What is *call by reference*? Provide an example to explain how they affect the function results in C programming language (or any other's).
- (8 %) A binary tree's inorder traversal is ABCDEFGHI and postorder traversal is BADCFHIGE. (a) Draw the tree, (b) Determine the order in which the node will be visited by invoking function f().

```
f(NODEPTR tree)
{
    if (tree != NULL) {
        printf("%d", tree->info);
        g(tree->left);
        g(tree->right);
    }
}

g(NODEPTR tree)
{
    if (tree != NULL) {
        f(tree->left);
        printf("%d", tree->info);
        f(tree->right);
    }
}
```
- (8 %) Contrast object-oriented design with top-down design. Also explain the following terms: *encapsulation*, *information hiding*, *polymorphism*.
- (14 %) What does each of the following stand for (write its full name):
(a) ADSL (b) EDI (c) SQL (d) FTP (e) TCP/IP (f) DDE/OLE (g) LAN/WAN (h) RAM/ROM (i) CAD/CAM/CIM