

國立彰化師範大學103學年度碩士班招生考試試題

系所： 資訊管理學系、
資訊管理學系數位內容科技與管理碩士班

科目： 計算機概論

☆☆請在答案紙上作答☆☆

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一、單選題（40%，每題 4%）

1. _____ is a lossless compression method for pictures and graphics.
(A) SVG (B) PNG (C) MP3 (D) MPEG (E) MP4
2. What is the message 0111010001111 using the Huffman code {A:0 B:10 C:11}?
(A) ACBBAACC (B) ACBBAACB (C) BCBBAACC
(D) ACBBABCC (E) ACBBACCC
3. A 32-bit code called _____ represents symbols in all languages.
(A) ASCII (B) Unicode (C) EBCDIC (D) BIG5 (E) GB2312
4. The decimal number 24.75 is equal to the binary number _____.
(A) $(11000.01)_2$ (B) $(11001.01)_2$ (C) $(11000.11)_2$ (D) $(10000.01)_2$ (E) $(11010.11)_2$
5. The octal number $(365)_8$ is equal to the hexadecimal number _____.
(A) $(F5)_{16}$ (B) $(F6)_{16}$ (C) $(F4)_{16}$ (D) $(E6)_{16}$ (E) $(A5)_{16}$
6. A process in the ready state goes to the running state when _____.
(A) it enters memory (B) it gets access to the CPU (C) it requests I/O
(D) it's I/O is satisfied (E) it's time slot exhausted
7. The 8-bit 2's complement number 10000000 is equal to the decimal number _____.
(A) -127 (B) -128 (C) 127 (D) 128 (E) none of the above
8. The CPU is made up of three parts: the control unit, the _____, and a set of registers.
(A) RAM (B) ROM (C) ALU (D) CD (E) DMA
9. Which device converts images and sends them to the same kind of device over a telephone line?
(A) fax (B) scanner (C) mouse (D) printer (E) digital camera
10. A _____ system is expected to do a task within specific time constraint.
(A) parallel (B) distributed (C) time-sharing (D) real-time (E) batch

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二、問答題 (10%)

1. A binary tree has 8 nodes. The preorder and inorder traversal of the tree are shown below. (5%)

Preorder traversal: GBFHDACE Inorder traversal: FHBDGCAE

Please draw the tree.

2. How many times the foo() function in the following C++ code segment is executed: (5%)

```
for(int i = 1; i < 10; i++)  
{  
    foo();  
    i = i + (i%2);  
}
```

三、填充題 (30%，每格 3%)

1. SDLC (in Systems Analysis and Design) stands for _____ life cycle
2. 3NF (in Database) stands for third _____
3. E-R Diagram (in Database) stands for _____ - _____ diagram
4. UML (in Object-oriented Analysis and Modeling) stands for _____ Language
5. SCM (in Management Information Systems) stands for _____ management

四、名詞解釋。請分別解釋以下名詞，並說明它們能為企業組織帶來哪些好處與優勢。

1. Enterprise resource planning system (10%)
2. Virtual private network (10%)