國 立 宜 蘭 大 學

１０２ 學年度研究所碩士班考試入學

計算機概論試題

（電子工程學系碩士班）

1. Single choice(單選題): (40%)

(1) Proximity smart cards operate at read distances of 4 to 8 inches (10 to 20 centimeters) from the interrogator antenna. Which of the following is the most accurate statement about this type of cards?(A) They use inductive coupling(B) They use near-field effects so do not require any coupling(C) They use far-field coupling(D) They use sequential coupling

(2) 某計算機有 24K 記憶體，若第一個位元組之位址為 0000，則最後一個位元組之位址(十六進位)為　　　(A)6000 (B)5FFF (C)5DBF (D)5DC0

(3) By using which of the following can connect to IP network 192.168.1.0 and 192.168.2.0? （A）Hub（B）Bridge（C）Router（D）Repeater

(4) 下列敘述何者不正確 (A)原始程式→Compiler→目的程式 (B)組合語言→Assembler→機器語言 (C)高階語言→Assembler→機器語言 (D)高階語言→Compiler→機器語言

(5) Which of the following is Network Operating System? (A) Linux (B) MS-DOS(C) Windows 98 (D) Windows ME。

(6) 二進位數值(101011)的值相當於十進位多少 (A)41 (B)43 (C)51 (D)53

(7) If one computer with 32-line address line and 8-line data line without external circuit, what's the largest memory addressing space of direct access? (A) 16MB (B) 256MB (C) 1GB (D) 4GB

(8) 一個 XOR 邏輯閘其輸入兩端分別送入兩組二位元之信號為 11110000 及 11001100，其輸出結果為 (A)11000011 (B)00111100 (C)10101010 (D)01010101

(9) Arrange the units below in increasing order, from the smallest to the biggest. (A)bit MB KB GB byte (B) bit byte KB MB GB (C) bit byte MB GB KB (D) bit GB byte KB MB。

(10) Inductive coupling in an RFID system (A)Provides a short read range of a few inches (B)Is used by active tags to transmit data (C)Is used by UHF tags to couple with the interrogator (D)Provides a read range up to 13 feet.

(11) The clock cycle of Pentium 4 12 GHz is (A) 5×2^{-3} s (B) 0.05ns (C) 0.5ns(D) 50ps

(12) Which is of the following is not the speed unit for computer terminology? (A)BPS (B) CPS (C) UPS (D) MIPS。

(13) Which of the following definition is not included in 3C Industry? （A）Consumer Electronics （B）Computing （C）Computer（D）Communication

(14) Which of the following is the correct definition of ERP (A)ERP = power input to antenna (dBm)*antenna gain(dB) (B)ERP = power input to interrogator (dBm)+antenna gain(dB) (C)ERP = power input to antenna (dBm)-antenna gain(dB) (D)ERP = power input to antenna (dBm)+antenna gain(dB)

(15) Which of the following is RS232? （A）parallel ports（B）serial ports（C）IEEE488

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interface（D）SCSI interface

(16) Which of the following storage bit is used by SRAM? （A）flip-flop（B）capacitor（C）resistance（D）magnet

(17) What kind of protocol should be used in the network settings if connecting to World Wide Web in Windows XP? (A)TCP/IP (B) PPP (C) NetBEUI (D) IPX/SPX

(18) What is the approximate wavelength of the 13.56MHz frequency?(A)13 inches (33 cm) (B)72.5 feet (22.1 m) (C)7.25 feet (2.21 m) (D)6.5 inches (16 cm)

(19) Which of the following is not the type of computer network? （A）Local Area（B）Narrow Area Network（C）Wind Area Network（D）Internet

(20) Which of the following is legal IP, and it can set as a server? (A) 203.64.120.1 (B) 203.64.120.256 (C) 256.64.120.1 (D) 203.256.120.1。

2. Draw and explain the following topologies of Local Area Networks: Bus, Star and Ring. (10%)

3. Explain the following terms. (10%)
   a. PIXEL
   b. FAT (Disk system)
   c. Year 2038
   d. VPN (network)
   e. Power PC

4. Describe the different between LAN,MAN and WAN. (10%)

5. Describe OSI model. (10%)

6. What are the outputs of the following C and Visual Basic programs? (20%)
   a.
```
Private Sub Command1_Click ( )
   A=10; B=4; C=10
   IF   A>5   THEN
     IF   B<3 THEN
       C=C+4
     ELSE
       C=C-5
     END IF
   END IF
   PRINT C
End Sub
```
   b.
```
Private Sub Form_Activate ( )
   Dim A(3,3) As Integer
   For I = 0 To 3
```

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```
        For J = 0 To 3
        A(I,J) = 3*I*(I+J)
        Next J
    Next I
    PRINT A(2,3)+A(1,1)
    End Sub
```

c.
```c
#include<stdio.h>
void Doo(int *i, int *j)
{
    *i=*j+2;
    *j=*j-4;
    printf("%d %d \n", *i,*j);
}
void Foo(int *a, int b)
{
    *a+=5;
    b*=3;
    printf("%d %d \n", *a,b);
    Doo(a, &b);
}
main()
{
    int x=8,y=3;
    Foo(&x,y);
    printf("%d %d \n", x,y);
}
```