

國立屏東商業技術學院九十三年度碩士班入學考試試題

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計算機概論(含 MIS)

注意：

1. 本試題共有二大題。第一大題為選擇題，共 35 題。第二大題為問答題，共 2 題。請依序並標明題號作答於答案卷上。
2. 選擇題每題均有四個選項，均為單選題，請依題意選出最適當的答案。
3. 單選題答對每題給 2 分。答錯、答案不完整或未答者給零分，不倒扣。
4. 試題須隨答案卷一併繳回。

一、單選題 (70%)

1. Comparing two items to see if they are equal is an example of
(A) an arithmetic operation performed in memory.
(B) an operation performed by the control unit.
(C) a logical operation performed by the ALU.
(D) reduced instruction set computing.
2. Starting a new instruction as soon as the previous one reaches the next stage of the machine cycle is called
(A) caching. (B) dithering. (C) parallel processing. (D) pipelining.
3. A major difference between EBCDIC and Unicode is that
(A) EBCDIC uses 8 bits to represent a character while Unicode uses 16.
(B) EBCDIC can represent only English words while Unicode can represent words in any language.
(C) EBCDIC can be used only for letters and digits while Unicode can represent special characters.
(D) ALL of the above are differences between EBCDIC and Unicode.

4. Enterprise Resource Planning refers to
- (A) the computer-to-computer exchange of business transaction data between trading partners.
 - (B) integrating the automated processes throughout a business.
 - (C) a structured method for developing systems by in-house analysis.
 - (D) a consolidated enterprise-wide database that can be accessed, analyzed, and manipulated in multiple ways.
5. Taking a defective disk pack offline for repair and replacing it without turning the system power off is
- (A) impossible.
 - (B) called hashing.
 - (C) a common occurrence in the Zip-disk world.
 - (D) called hot swapping.
6. Mathematically transforming a key field into a disk address is known as
- (A) formatting. (B) hashing. (C) partitioning. (D) indexed processing.
7. A condition caused by programs that do not free up all the memory they no longer need when they are closed is called
- (A) memory leakage. (B) disk overload. (C) memory creep. (D) memory trace.
8. The purpose of interleaved processing techniques is to
- (A) increase the efficiency of the computer system.
 - (B) allow users to give commands by pointing to icons or buttons instead of typing command names.
 - (C) increase storage capacity by splitting a file so that it can be stored in available clusters throughout the disk instead of requiring contiguous clusters.
 - (D) detect and repair errors that occur on the hard drive.
9. When a locked padlock is displayed by the browser, it means that
- (A) the maximum number of viewers has been reached and you must wait until the page is unlocked before you can view its contents.
 - (B) this page meets government privacy standards.
 - (C) you do not have access to the links from this page.
 - (D) this is a secure page.

10. Which of the following takes place during the problem analysis phase of program development?
 - (A) Writing of pseudocode.
 - (B) Selection of a programming language.
 - (C) Creating of program flowcharts.
 - (D) None of the above takes place during problem analysis.

11. In object-oriented programming, the ability to send the same message to different objects and have the object interpret it according to its methods is an example of
 - (A) reusability. (B) replication. (C) polymorphism. (D) variability.

12. The bundling of an object with its variables and methods into a single software entity is called
 - (A) classification. (B) inheritance. (C) encapsulation. (D) recursion.

13. When a program written in a language such as COBOL needs to request data from a database management system, it does so through an interface called a
 - (A) data manipulation language.
 - (B) data dictionary.
 - (C) data definition language.
 - (D) structured query.

14. To establish a relationship between two tables in a relational database, they must have
 - (A) the same number of records.
 - (B) at least one fields in common.
 - (C) the same structure.
 - (D) none of the above.

15. Multimedia entities are most likely to be stored in a(n)
 - (A) hierarchical database.
 - (B) network database.
 - (C) relational database.
 - (D) object-oriented database.

16. Middleware is
 - (A) a set of commands that a programmer can use to give database commands in a standard

programming language.

(B) a software that connect two otherwise separate applications.

(C) a tool for removing unnecessary redundancy from database tables.

(D) a software that you can use for free for a trial period before having to pay for it.

17. A Web site that brings together companies that provide payroll services to a business that is looking for a payroll application can find one that meets its need is an example of a(n)

(A) vortal. (B) vertical hub. (C) horizontal hub. (D) e-tailer.

18. Scripting languages allow you to

(A) quickly generate forms or screens for inputting data.

(B) share objects between applications.

(C) develop web pages with dynamic content.

(D) describe what the program is to do instead of how it is to be done.

19. 以下有關 NFS (Network File System)的架設何者正確？

(A)防火牆必須打開 TCP port 80

(B)NFS 伺服器必須把欲分享的目錄設定在/etc/nfs 中

(C)NFS 是透過 RPC 協定來存取遠端電腦的檔案

(D)用戶端欲掛載遠端 NFS 目錄到本機檔案系統必須用 exportfs 指令為之

20. 以下有關 Apache 的敘述何者正確？

(A)為一網頁伺服器軟體，支援 HTTP/1.0 及 HTTP/2.0

(B)可架設在 Linux 或 Windows 的作業平台上

(C)一般使用者欲建立個人網站必須在自己的家目錄下建立 public_html 目錄，並設定存取權限為 711

(D)Apache 的缺點是無法設定虛擬主機

21. 以下有關 Cookie 的說明何者正確？

(A)可以由 Server 程式(例如，ASP、JSP、或 PHP)或 Client 程式(例如，JavaScript)來設定

(B)用戶端瀏覽器無法關閉 Cookie 功能，因此當下次使用者瀏覽相同網站時，可以取得相關資訊

(C)靜態網頁(HTML 檔)無法設定 Cookie，只支援動態網頁(例如，ASP、JavaScript 等)

(D)Proxy 伺服器無法將 Cookie 過濾掉，因此使用者即使透過 Proxy 來存取網站，仍可記錄使用者資訊

22. 以下有關資料倉儲與探勘的說明何者正確？
- (A)資料倉儲必須在資料探勘完成後立刻進行
 - (B)資料倉儲中的 OLAP 提供決策者找出隱藏在企業資料中有用的資訊
 - (C)資料倉儲通常花費成本不高，又可以不同的維度幫助企業決策者分析資料，因此愈來愈流行
 - (D)資料探勘技術可用於分析網頁資料，來瞭解消費者的偏好
23. 以下有關 Unix 網路工具程式的說明何者正確？
- (A)ifconfig 可用來設定網路界面(真實 IP)，及虛擬界面(假 IP)
 - (B)虛擬界面的 MAC 位址也必須透過 ipconfig 一併指派，才能正確運作
 - (C)路由表資訊可透過 traceroute 顯示出來
 - (D)內定開道的 IP 指派的指令為 `traceroute add default gw xx.xx.xx.xx`，其中 `xx.xx.xx.xx` 為開道器 IP
24. 以下有關 Linux 的操作何者正確？
- (A)當忘記 root 密碼時可以 single user mode 進入系統更改，但基於安全考量，single user mode 只能由開機片進入
 - (B)圖形文字模式的切換是：文字模式 `init 5`，圖形模式是 `init 7`
 - (C)中文系統必須外掛 `xcin`，目前僅提供文字模式，無法在 X-Window 中顯現中文
 - (D)當系統異常關機造成無法順利開機時，必須執行 `fsck` 來修復檔案系統的完整性
25. 以下有關 c++/Java/C#的描述何者正確？
- (A)欲進行兩字串 a 與 b 的比較，其語法為 `a.toString().equals(b.toString())`
 - (B)C#是 Java 的延伸，故具有 Reflection、Thread、Networking 的功能，且不允許 Operator overloading
 - (C)C++的 STL 所提供的 container 及 iterator 可對應到 Java 中的 `java.lang.*`
 - (D)Swing 是一種 Java Bean 的發展工具
26. 以下有關智慧代理人(intelligent agent)的說明何者正確？
- (A)是一種網頁伺服器，用以提供網頁內容服務
 - (B)使用人工智慧的技術，可具有學習能力
 - (C)其開發工具目前僅限於 Java
 - (D)具有資訊過濾及分析能力，但僅限於離線作業
27. 有關 Java 執行緒的說明何者正確？
- (A)必須透過繼承 Thread 類別才能建立執行緒

- (B)join()方法可用來判斷一執行緒是否仍活著
 (C)執行緒內的溝通可透過 wait()、notify()、notifyAll()等方法達成，但這些方法必須在 synchronized 方法中才能呼叫
 (D)使用 volatile，Java 可以以最佳化的方式執行迴圈，增加效率
28. 防止資料內容遭受未經授權者竄改，是屬於電子商務安全機制中所必備的何種特性？
 (A)鑑別性 (B)完整性 (C)機密性 (D)不可否認性
29. 下列 UML 圖形何者適合用來描述真實世界的靜態模型？
 (A)Use Case Diagrams (B)State Diagrams (C)Activity Diagrams (D)Class Diagrams
30. 以下有關網路工具 ssh, telnet, ftp 的敘述何者正確？
 (A)欲提供 telnet 及 ftp 服務，必須架設伺服器，才能供用戶端存取，但 ssh 則不需要
 (B)telnet 及 ftp 是採 TCP，而 ssh 採 UDP 協定
 (C)ssh 可使用 RSA 或 DSA，故同時支援對稱式及非對稱式加密法
 (D)ssh, telnet, ftp 的內定埠號依次為 22, 23, 21
31. 以下有關資料庫的敘述何者正確？
 (A)使用預存程序(stored procedure)可加快查詢(query)效率，但其缺點是較無彈性
 (B)OLAP 目前都是透過 ODBC 和資料庫溝通，因此較沒效率
 (C)兩個資料表做外部連結(outer join)時會產生卡氏積，對查詢而言十分沒效率
 (D)子查詢(subquery)可省卻使用暫存資料表或變數來儲存資料的麻煩，某些無法使用連結處理的情況，可使用子查詢來完成
32. 假設某命題「if p then q」成立則以下敘述何者正確？
 (A)p 是 q 的必要條件 (B)p 是 q 的充分條件 (C)q 是 p 的充分條件 (D)以上皆非
33. 以下敘述何者正確？
 (A)ICMP 屬於網路層協定，可用來報告錯誤，故被視為 ARP 的輔助協定
 (B)ARP 可用來做領域名與 IP 解析之用
 (C)ARP 的廣播封包無法經過集線器(Hub)，故無法對其它網路進行解析
 (D)PING 工具可發出 ICMP 回應要求封包
34. 以下何者是 $a+b*(c+d)^e-f$ 的前序表示法？
 (A)+ab*+cd^-ef (B)+*+^+abcdef (C)+a*b^cd+ef (D)+a*b^+cdef

35. 以下有關 DNS (Domain Name System)的描述何者正確？

(A)採用 TCP 協定，其埠號為 53

(B)BIND 9 可讓一個 IP 對應到多個主機名稱，也可以讓一個主機名稱對應多個 IP

(C)在解析 IP 時，DNS 伺服器與伺服器間的查詢是靠遞迴查詢(Recursive Query)為之

(D)DNS 伺服器通常可以充當 NAT 伺服器，因為它主要提供網路位址轉譯的功能

二、問答題 (30%)

1. 現有 9 個數字號碼牌，編號依次為 1 到 9，兩人輪流從中選取一個號碼（選過的號碼不再置回），最先使手中的任三個號碼加起來等於 15 的人獲勝。

(1)使用任一程式語言，試寫一段程式碼，判斷玩者手中的牌是否有任三張加起來等於 15。

(4%)

(2)試將 1 到 9 的數值填入下列的九宮格中，使直排、橫排、及對角線加起來都等於 15。(4%)



(3) 你如何由上述兩項資訊設計井字遊戲(tick-tack-toe)。(4%)

2. Fill up the results of the form based on the VB.Net code listed in the textbox. (18%)

```
Public Class Form1
    Inherits System.Windows.Forms.Form
    Sub CallSub1(ByRef x As Integer, ByRef y As Integer)
        x = 4
        y = x + y
        lblTime1.Text = "x = " & x & "   y = " & y
    End Sub
    Sub CallSub2(ByRef x As Integer, ByRef y As Integer)
        x = 4
        y = x + y
        lblTime2.Text = "x = " & x & "   y = " & y
    End Sub
    Private Sub Form1_Activated(ByVal sender As Object, ByVal e As System.EventArgs) Handles MyBase.Activated
        Dim a As Integer, b As Integer
        a = 10
        b = 12
        '**** 第一次呼叫
        lblBefore1.Text = "a = " & a & "   b = " & b
        Call CallSub1((a), b)
        lblAfter1.Text = "a = " & a & "   b = " & b
        '**** 第二次呼叫
        lblBefore2.Text = "a = " & a & "   b = " & b
        Call CallSub2(a, b)
        lblAfter2.Text = "a = " & a & "   b = " & b
    End Sub
End Class
```

The screenshot shows a form window titled "Subroutine Calls". Inside the form, there is a grid with the following text:

* 呼叫結果 *

第一次呼叫前:

第一次呼叫時:

第一次呼叫後:

第二次呼叫前:

第二次呼叫時:

第二次呼叫後:

To the right of the grid, there are six rectangular boxes, each with an arrow pointing to a specific row in the grid:

- lblBefore1 points to the first row (before the first call).

- lblTime1 points to the second row (during the first call).

- lblAfter1 points to the third row (after the first call).

- lblBefore2 points to the fourth row (before the second call).

- lblTime2 points to the fifth row (during the second call).

- lblAfter2 points to the sixth row (after the second call).

Fill up the form above for each item specified.