

# 國立屏東教育大學 100 學年度學士班轉學招生考試

## 計算機概論 試題

( 電腦與智慧型機器人學士學位學程 )

\*注意事項：(1) 本試題共 2 頁，答案請「橫式」書寫，並依規定上下翻頁，否則不予計分。  
(2) 不必抄題，但請依序將題號標出，並寫在答案紙上。

### 一、選擇題 (每題 5 分共 50 分)

1. Under the assumption that X takes on only integer values, which of the following is the termination condition for the following loop?  
repeat ( . . . )  
until (X < 5)  
  
A. X < 5      B. X > 4      C. X > 5
2. Which of the following is not a role of a typical operating system?  
A. Control the allocation of the machine's resources  
B. Control access to the machine  
C. Maintain records regarding files stored in mass storage  
D. Assist the computer user in the task of processing digital photographs
3. Which of the following systems is least efficient when encoding numeric values?  
A. Two's complement notation    B. Excess notation    C. ASCII    D. Floating-point notation
4. Which of the following is not an activity performed entirely within a CPU?  
A. Fetch instructions    B. Perform Boolean operations    C. Perform arithmetic operations  
D. Move data between registers
5. Which of the following is not a means of obtaining a form of multitasking?  
A. Pipelining    B. Time sharing    C. Virtual memory    D. Multiple processors
6. Which layer of the TCP/IP hierarchy presents incoming messages to the computer user?  
A. Application    B. Transport    C. Network    D. Link
7. Which layer of the TCP/IP hierarchy is responsible for obtaining the correct address for a message's destination?  
A. Application    B. Transport    C. Network    D. Link

8. In an artificial neural network, which of the Boolean operations AND, OR, and XOR can a single processing unit with two inputs be programmed to compute?  
A. AND only    B. OR only    C. XOR only    D. AND and OR only
9. If the two-dimensional array X were stored in row-major order, then in the block of main memory containing X, which of the following would be true?  
A. The entry X[1,2] would appear before X[2,1].  
B. The entry X[1,2] would appear after X[2,1].  
C. The entry X[1,2] would be in the same location as X[2,1].  
D. None of the above
10. At what “stage” of analysis is the meaning of the word ball in the following sentence determined?  
A. Syntactic analysis    B. Semantic analysis    C. Contextual analysis

## 二、問答題 (共 50 分)

1. 在一個已按由大到小順序排列好的數值陣列 A 中搜尋某一給定的數字 x。  
試寫出二分搜尋法 (Binary search) 之程式碼 (10%)  
註：可用任何你 (妳) 熟悉的語言或虛擬程式碼來表達
- 2.(1) 試說明在電腦系統上之硬碟空間若採 RAID 結構將會有何種優點? (5%)  
(2) 何謂 RAID Level 3? (5%)
- 3.財團法人台灣網路資訊中心 (TWNIC) 於 2011 年 6 月 8 日舉行台灣 IPV6 日活動，邀請網路服務供應商 (ISP)、網路內容供應商 (ICP) 以及一般用戶來大規模測試 IPV6。試回答下列問題：  
(1) 何謂 IPV6? 它與 IPV4 最大差異為何? (5%)  
(2) 何謂 NAT 設備? 它對於 IPV6 之推動工作有何影響? (5%)
- 4.(1) 何謂名稱伺服器 (Name server)? 其主要功能為何? (5%)  
(2) 若校園內部之名稱伺服器毀損且暫時無法修復時，在校園內部的電腦有何種方式可以解決眼前之上網問題? (5%)
- 5.機器語言在 CPU 裡執行的流程程序稱為指令週期，一般可將指令週期分成五個過程。試就每一過程分別說明之。(10%)