

國立中央大學98學年度碩士班考試入學試題卷

所別：企業管理學系碩士班 企業電子化組(庚組) 科目：計算機概論 共 2 頁 第 1 頁  
企業電子化組(辛組) \*請在試卷答案卷(卡)內作答

【第一部份：計算機理論基本觀念選擇題。共 60 分】

- 以下共有 20 題選擇題，每題最多有一個正確答案。請選出各題的正確答案，若題中所列選項皆不正確請回答「×」。
- 答對每題得 3 分，答錯每題倒扣 1.5 分。

- 1.1 Which physical topology uses a hub or switch? (A) Bus, (B) Ring, (C) Star, (D) All of the above.
- 1.2 \_\_\_\_\_ is multiprogramming with swapping. (A) Partitioning, (B) Paging, (C) Demand paging, (D) Queuing.
- 1.3 \_\_\_\_\_ is a process in which an algorithm calls itself. (A) Insertion, (B) Searching, (C) Recursion, (D) Iteration.
- 1.4 Use a \_\_\_\_\_ search for an unordered list. (A) Sequential, (B) Binary, (C) Bubble, (D) Insertion.
- 1.5 To prevent \_\_\_\_\_, an operating system can put resource restriction on processes. (A) Starvation, (B) Synchronization, (C) Paging, (D) Deadlock.
- 1.6 \_\_\_\_\_ is a program's code in machine language. (A) A procedure, (B) An object program, (C) A source program, (D) none of above.
- 1.7 \_\_\_\_\_ is a measure of how tightly two modules are bounded to each other. (A) Modularity, (B) Coupling, (C) Interoperability, (D) Cohesion.
- 1.8 The pop operation \_\_\_\_\_ of the stack. (A) deletes an item from the top, (B) deletes an item from the bottom, (C) inserts an item at the top, (D) inserts an item at the bottom.
- 1.9 In \_\_\_\_\_ traverse of a binary tree, the left subtree is processed last. (A) preorder, (B) inorder, (C) postorder, (D) none of above.
- 1.10 In JPEG encoding, the \_\_\_\_\_ process breaks the original picture into smaller blocks and assigns a value to each pixel in a block. (A) Blocking, (B) DCT, (C) Quantization, (D) vectorization.
- 1.11 The complexity of a problem is  $O(\log n)$  and the computer executes 1 million instructions per second. How long does it take to run the program if the number of operations is 10,000. (A) 1 microsecond, (B) 2 microsecond, (C) 3 microsecond, (D) 4 microsecond.
- 1.12 The smallest storage area on a magnetic disk that can be accessed at one time is a \_\_\_\_\_. (A) Track, (B) Sector, (C) Frame, (D) Head.
- 1.13 In two's complement representation with a 4-bit allocation, we get \_\_\_\_\_ when we add 5 to 5. (A) -5, (B) -6, (C) -7, (D) 10.
- 1.14 The precision of the fractional part of a number stored in a computer is defined by the \_\_\_\_\_. (A) sign, (B) exponent, (C) mantissa, (D) any of the above.
- 1.15 To traverse a list, you need a \_\_\_\_\_ pointer. (A) null, (B) walking, (C) beginning, (D) insertion.
- 1.16 In the \_\_\_\_\_ method for synchronizing the operation of the CPU with an I/O device, the CPU is idle until the I/O operation is finished. (A) programmed I/O, (B) interrupt-driven I/O, (C) DMA, (D) isolated I/O.

參考用

注意：背面有試題

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- 1.17 DES is an example of a modern \_\_\_\_\_. (A) Symmetric-key cipher, (B) asymmetric-key cipher, (C) cryptography hashing function, (D) none of the above.
- 1.18 In a set of 64 symbols, each symbol requires a bit pattern length of \_\_\_\_\_ bits. (A) 4, (B) 5, (C) 6, (D) 7.
- 1.19 An empty linked list consists of \_\_\_\_\_. (A) a node, (B) two nodes, (C) data and a link, (D) a null head pointer.
- 1.20 The \_\_\_\_\_ layer of the TCP/IP protocol suite provides services for end users. (A) Data-link, (B) Transport, (C) Application, (D) Physical.

【第二部份：填充題。共 15 分】

- 以下共有 5 題填充題，請填入正確答案。每題答案完全正確得 3 分。

- 2.1 In a positional number system with base  $b$ , the largest integer number that can be represented using  $k$  digits is  $b^k - 1$ . The largest number in the Binary systems with 6 digits is \_\_\_\_\_.
- 2.2 In a three-level DBMS architecture, the \_\_\_\_\_ level determines where data is actually stored on the storage device.
- 2.3 Inheritance enables \_\_\_\_\_ which saves time in development, and encourages using previously proven and high-quality software.
- 2.4 A(n) \_\_\_\_\_ list is also known as a queue.
- 2.5 A floating point representation of a number is made up of three parts: a sign, a shifter, and a \_\_\_\_\_.

【第三部份：計算機程式。綜合評分，共 25 分】

- 3.1 Please write an algorithm in pseudocode for the bubble sort using a subalgorithm to do bubbling in the unsorted sublist.
- 3.2 Please create a **Date** class with the following capabilities:
- (a) Output the date in multiple formats such as  
DDD YYYY  
MM/DD/YY  
June 14, 1992
  - (b) Use overloaded constructors to create **Date** objects initialized with dates of the formats in part (a)
  - (c) Create a **Date** constructor that reads the system date using the standard library functions of the *time.h* header and sets the **Date** members.

注意：背面有試題

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