1. Which of the following is the binary representation of 4 5/8?

    A. 100.11 B. 10.011 C. 110.101   D. 100.101

2. Which of the following bit patterns represents the value -5 in two's complement notation?

    A. 00011010   B. 11111011   C. 00000101   D. 11111011

3. Which of the following mass storage system does not require physical motion?

    A. Magnetic tape   B. Magnetic disk   C. DVDs   D. Flash drives

4. How many different symbols can be encoded using Unicode?

    A. 256   B. 4,096   C. 65,536   D. 1,046,476

5. Which of the following is a means of encoding music?

    A. ASCII B. MIDI C. JPEG D. GIF

6. Which of the following is not contained in a CPU?

    A. Instruction register   B. Program counter
    C. General-purpose register   D. Memory cell

7. Which of the following instructions does not fall in the category of arithmetic/logic instructions?

    A. ROTATE   B. ADD   C. OR   D. JUMP

8. Which of the following is a technique for controlling access to a critical region?

    A. Spooling   B. Time sharing   C. Semaphore   D. Booting

9. Which of the following is not involved in a context switch?

    A. Interrupt B. Process table   C. Dispatcher   D. Shell

10. 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

11. Which of the following is a task that is not performed by the kernel of an operating system?

A. Communicate with the user　　　B. Schedule processes

C. Allocate resources　　　D. Avoid deadlock

12. Which of the following would be a concern of the file manager in a multi-user computer system that would not be a concern in a single-user system?

A. Maintain records regarding the location of files

B. Maintain records regarding the ownership of files

C. Maintain records regarding the size of files

D. None of the above

13. Which of the following would not require real-time processing?

A. Typing a document with a word processor

B. Navigation of an aircraft

C. Forecasting word-wide trade for the next five year period

D. Maintaining a airline reservation system

14. Which of the following is a protocol for controlling the right to transmit a message in a network?

A. UDP　　　B. CSMA/CD　　C. TCP　　　　D. FTP

15. Which of the following is not an application of the Internet?

A. FTP　　　　B. Email　　　C. Telnet　　　D. CERT

16. Which layer of the TCP/IP hierarchy presents incoming messages to the computer user?

A. Application　　B. Transport　　C. Network　　D. Link

接次頁

17. What is the time complexity of the problem of searching for a particular entry in a list?

    A. $\Theta(\lg n)$ B. $\Theta(n)$ C. $\Theta(n \lg n)$ D. $\Theta(n^2)$

18. Which of the following is not a protocol used in the basic TCP/IP software hierarchy?

    A. POP3   B. UDP   C. TCP   D. IP

19. When searching within the list

    Lewis, Maurice, Nathan, Oliver, Pat, Quincy, Roger, Stan, Tom

which of the following entries will be found most quickly using the binary search algorithm?

    A. Lewis   B. Pat   C. Tom   D. Stan

20. Which of the following is a loop invariant at the point at which the test for termination is performed in the following loop structure?

```
X ← 3;
while (X < 5) do
  (X ← X + 2)
```

    A. $X > 5$ B. $X < 5$ C. $X \geq 5$ D. $X \leq 5$

21. Which of the following is an example of a language that is based on the functional paradigm?

    A. LISP   B. PROLOG   C. C   D. C++

22. Which of the following does not require a Boolean structure?

    A. If-then-else statement   B. While loop statement
    C. Assignment statement   D. For loop statement

23. Which of the following is a means of defining similar yet different classes in an object-oriented program?

見背面

A. Inheritance　　B. Parsing　C. Coercion　　　D. Code optimization

24. Suppose a binary tree contained the nodes W, X, Y, and Z. If W and X were children of Y, and Z had no children, which node would be the root?

A. W　　　B. X　　　C. Y　　　D. Z

25. Given the relation X below

```
X:   A    B    C
     2    5    7
     3    3    3
     4    3    2
     5    2    8
```

what value will be extracted by the following query?

```
TEMP ← SELECT from X where B > C
RESULT ← PROJECT A from TEMP
```

A. 2　　　B. 3　　　C. 4　　　D. 5

試題隨卷繳回