

單選題：(共 25 題，每題 4 分。) 請依下列格式，將答案填於答案卷上

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25					

- Which of the following values cannot be stored accurately using a floating-point format in which the most significant bit is the sign bit, the next three bits represent the exponent field in excess notation, and the last four bits represent the mantissa?
A. $2\frac{1}{2}$ B. $\frac{3}{16}$ C. 7 D. $6\frac{1}{4}$
- Which of the following mass storage system does not require physical motion?
A. Magnetic tape B. Magnetic disk C. DVDs D. Flash drives
- Assuming that each of the following bit patterns originally had even parity, which one contains an error?
A. 100110100 B. 110000011 C. 000011000 D. 100001001
- Which of the following is a means of encoding music?
A. ASCII B. MIDI C. JPEG D. GIF
- Which of the following is not contained in a CPU?
A. Instruction register B. Program counter
C. General-purpose register D. Memory cell
- In which of the following locations is information most readily available for manipulation by the CPU?
A. Cache memory B. Main memory
C. Mass storage D. General-purpose registers
- An ARM based processor is an example of what kind of computer architecture?
A. DSL B. CISC C. RISC D. Pentium
- Which of the following components of an operating system maintains the directory system?
A. Device drivers B. File manager C. Memory manager
- The end of a time slice is indicted by the occurrence of a signal called
A. An interrupt B. A semaphore C. A login
- A section of a program that should be executed by at most one process at a time is called a
A. Utility B. Critical region C. Privileged instruction

11. Which of the following is not an attempt to provide security?
A. Passwords B. Privilege levels C. Multitasking
12. Which of the following is a technique for controlling access to a critical region?
A. Spooling B. Time sharing C. Semaphore D. Booting
13. Which of the following is not a way of classifying networks?
A. WAN versus LAN B. Closed versus open
C. Router versus bridge D. Star versus bus
14. Ethernet is a means of implementing which of the following network topologies?
A. Star B. WiFi C. Bus
15. Which of the following connects existing networks to form an internet?
A. Bridge B. Router C. Switch D. Repeater
16. 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
17. Which of the following is not a means of performing interprocess communication over a network?
A. Client/server B. ICANN C. Peer-to-peer
18. Which of the following is a representation?
A. Algorithm B. Program C. Process
19. Which of the following set of instructions defines an algorithm in the formal, strict sense?
A. $X \leftarrow 3;$ B. $X \leftarrow 3;$ C. $X \leftarrow 3;$
while (X < 5)do while (X < 5) do while (X < 5) do
 (X \leftarrow X) (X \leftarrow X + 1) (X \leftarrow X - 1)
20. Which of the following is not a means of repeating a block of instructions?
A. Pretest loop B. Posttest loop C. Recursion D. Assignment statement
21. 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 sequential search algorithm?
A. Lewis B. Pat C. Tom
22. The insertion sort algorithm is an example of an algorithm in which of the following classes?
A. $\Theta(\lg n)$ B. $\Theta(n)$ C. $\Theta(n \lg n)$ D. $\Theta(n^2)$
23. The binary search algorithm is an example of an algorithm in which of the following classes?
A. $\Theta(\lg n)$ B. $\Theta(n)$ C. $\Theta(n \lg n)$ D. $\Theta(n^2)$
24. Which of the following is not a protocol used in the basic TCP/IP software hierarchy?
A. POP3 B. UDP C. TCP D. IP
25. Which generation of wireless network technology uses the packet-switched IP network?
A. 3G B. 4G C. 5G D. All of the above