一、選擇題(60%)：每題答對得兩分，答錯或空白得零分

1. The largest network in the world is called the a. Internet b. WWW c. HINET d. TANET e. FTP
2. The most important system software program is the __. a. word processor b. database management system c. operating system d. application software e. information system
3. Which of the following computer types is the smallest? a. mainframe b. microcomputer c. supercomputer d. workstation e. minicomputer
4. A step-by-step solution to a problem is called __. a. hardware b. an operating system c. a computer language d. an algorithm e. ASCII
5. Which of the following is a secondary storage device? a. RAM b. cache c. floppy-disk d. printer e. monitor
6. Language translators (or compilers) convert human language into __. a. machine language b. UNIX c. assembly language d. operating systems e. JAVA language
7. Web site addresses are called __. a. HTML b. home pages c. URLs d. hyperlinks e. TCP/IP
8. The most common input devices are the __ and the __. a. keyboard, printer b. mouse, monitor c. printer, monitor d. keyboard, microphone e. mouse, keyboard
9. What is the domain name in the email address kayla@pit.arc.nasa.gov? a. kayla b. pit.arc.nasa.gov c. kayla@pit.arc.nasa.gov d. nasa.gov e. gov
10. The IP address is currently ___ bits in length. a. 4 b. 8 c. 16 d. 32 e. 64
11. The ___ layer of OSI model organizes bits into logical data units called frames a. physical b. data-link c. network d. transport e. session
12. Which topology uses a hub or switch? a. bus b. ring c. star d. all of the above e. none of the above
13. a. FTP b. SMTP c. TELNET d. HTTP e. SSL is a protocol for file transfer.
14. DOS is considered a ___ operating system. a. batch b. time-sharing c. parallel d. personal e. multitasking
15. A system with more than one CPU requires a ___ operating system. a. batch b. time-sharing c. parallel d. distributed e. network
16. a. An operating system b. Hardware c. A queue d. An application program e. An anti-viruses program supervises and manages the activity of each component in a computer system.
17. Multiprogramming requires a ___ operating system. a. batch b. time-sharing c. parallel d. distributed e. network
18. The only language understood by computer hardware is a ___ language. a. C/C++ b. symbolic c. high-level d. natural e. machine
19. ___ is a basic algorithm that arranges data according to their values. a. Inquiry b. Sorting c. Searching d. Recursion e. Summation
20. C, C++, and JAVA can be classified as ___ language. a. machine b. symbolic c. high-level d. natural e. assembly
21. JAVA is a(n) ___ language. a. procedural b. functional c. declarative d. object-oriented e. assembly
22. HTML, PERL, and SQL fall under the classification of ___ language. a. modern b. special declarative c. object-oriented d. nature e. assembly
23.
24. A gateway operates at ___ of the OSI model. a. first layer b. first two layers c. first three layers d. all layers e. none of the above

25. The ___ memory contains a copy of a portion of main memory to speed up execution. a. CPU b. monitor c. printer d. ROM e. cache

26. In ___, only one program can reside in memory for execution. a. monoprogramming b. multiprogramming c. partitioning d. paging e. none of the above

27. A standard data type in the C/C++ language is not including a. int b. char c. float d. array e. both float and array

28. The ___ controller features a parallel interface and daisy-chained connection for I/O devices. a. SCSI b. FireWire c. USB d. IDE e. all of the above

29. Random Access Memory (RAM) is a kind of ___ storage. a. permanent b. smart c. temporary d. expansion e. cache memory

30. ___ search is usually applied to an ordered list. a. Sequential b. Binary c. Bubble d. Insertion e. Selection

二、簡答題(40%)：答錯或空白得零分

1. Convert the following five base ten (decimal) representations to their equivalent two's complement forms using patterns of 8 bits: (10%) 
   a. 6   b. -17  c. -1   d. 0   e. 1

2. The IEEE 32-bit floating point standard is given below. The leftmost bit is the sign bit; the next eight bits denote the Exponent Field and the remaining twenty-three bits denote the Mantissa Field.
   (a) Convert the value 5.025 (decimal representations) into its IEEE 32-bit floating point format. (5%)
   (b) Interpret the following 32-bit floating point number to its decimal representation. (5%)
   1 01111100 110011000000000000000000
   \[ \begin{array}{cccccccccccccc}
   b_{31} & b_{30} & b_{29} & b_{28} & b_{27} & b_{26} & b_{25} & b_{24} & b_{23} & b_{22} & b_{21} & b_{20} & \ldots & b_1 & b_0 \\
   \end{array} \]

Exponent  Mantissa

IEEE 32-bit floating point format

3. Identify the body of the following loop structure and count the number of times it will be executed. (5%)
   What happens if the test is changed to while (Count not 6)? (5%)

4. What are the five basic components that make up a computer? (10%)