科目名稱	計算機概論	類組代碼	A13、D17
		科目碼	A1301

※本項考試依簡章規定各考科均「不可以」使用計算機　　本科試題共計 5 頁

一、選擇題(每題 2.5 分)　　請於答案卡上作答，否則不予計分

1. The _____ model is the basis for today's computers.
   A. von Neumann
   B. Charles Babbage
   C. Leibnitz
   D. Pascal

2. A step-by-step solution to a problem is called _____ .
   A. an operating system
   B. an algorithm
   C. hardware
   D. a computer language

3. For an 8-bit allocation, the smallest decimal number that can be represented in two's complement form is _____ .
   A. -127
   B. -128
   C. -256
   D. -8

4. A register in a CPU can hold _____ .
   A. only data
   B. data, instruction, or program counter values
   C. only instructions
   D. only program counter values

5. The smallest storage area on a magnetic disk that can be accessed at one time is a _____ .
   A. track
   B. head
   C. sector
   D. frame

6. A stack is a _____ structure.
   A. FIFO
   B. SIFO
   C. LIFO
   D. DIFO

7. Which physical topology uses a hub or switch?
   A. star
   B. bus
   C. ring
   D. bus and ring

8. To prevent _____ , an operating system can put resource restrictions on processes.
   A. paging
   B. synchronization
   C. deadlock
   D. starvation

9. _____ is a basic algorithm in which we want to find the location of a target in a list of items.
   A. Product
   B. Searching
   C. Sorting
   D. Summation

10. C, C++, and Java can be classified as _____ languages.
   A. high-level
   B. natural
   C. machine
   D. symbolic

11. The pop operation _____ of the stack.
   A. deletes an item from the top
   B. inserts an item at the bottom
   C. deletes an item from the bottom
   D. inserts an item at the top

12. We use a _____ search for an ordered list.
   A. bubble
   B. binary
   C. sequential
   D. insertion

13. _____ is multi-programming without swapping.
   A. Demand paging
   B. Virtual memory
   C. Queuing
   D. Partitioning

14. The _____ layer of the TCP/IP protocol suite is responsible for source-to-destination delivery of the entire message.
   A. data-link
   B. transport
   C. network
   D. session

15. The data in _____ is erased if the computer is powered down.
   A. RAM
   B. a CD-ROM
   C. ROM
   D. a tape drive

16. _____ is a stand-alone storage location that holds data temporarily.
   A. An ALU
   B. A tape drive
   C. A register
   D. A control unit

17. For the binary _____ operator, if the input is two 0's, the output is 0.
   A. Only OR
   B. Only XOR
   C. AND, OR, or XOR
   D. Only AND

18. Which of the following representations is erroneous?
   A. $(EF)_{16}$
   B. $(110)_2$
   C. $(141)_8$
   D. 22A

19. The _____ is a computer subsystem that performs operations on data.
    A. CPU
    B. bus subsystem
    C. memory
    D. I/O hardware
20. _____ is a program that facilitates the execution of other programs.
    A. A queue
    B. Hardware
    C. An application program
    D. An operating system
21. _____ is a pictorial representation of an algorithm.
    A. Pseudocode
    B. A program
    C. A UML diagram
    D. An algorithm
22. _____ is a process in which an algorithm calls itself.
    A. Recursion
    B. Searching
    C. Insertion
    D. Iteration
23. The push operation _____ of the stack.
    A. deletes an item from the top
    B. inserts an item at the bottom
    C. deletes an item from the bottom
    D. inserts an item at the top
24. _____ is a basic algorithm that arranges data according to its value.
    A. Searching
    B. Sorting
    C. Inquiry
    D. Recursion
25. The _____ layer of the TCP/IP protocol suite provides services for end users.
    A. application
    B. data-link
    C. transport
    D. physical
26. _____ is a memory type with capacitors that need to be refreshed periodically.
    A. SRAM
    B. CROM
    C. DRAM
    D. ROM
27. _____ is a logical bit operator.
    A. The unary NOT
    B. The binary AND
    C. exclusive OR, unary NOT, or binary AND
    D. The exclusive OR
28. In a computer, the _____ subsystem stores data and programs.
    A. input/output
    B. control unit
    C. ALU
    D. memory

29. In a set of 64 symbols, each symbol requires a bit pattern length of _____ bits.
    A. 5
    B. 4
    C. 6
    D. 7

30. If the memory address space is 16 MB and the word size is 8 bits, then _____ bits are needed to access each word.
    A. 8
    B. 32
    C. 16
    D. 24

31. The three steps in the running of a program on a computer are performed in the specific order _____ .
    A. fetch, execute, and decode
    B. decode, fetch, and execute
    C. decode, execute, and fetch
    D. fetch, decode, and execute

32. In _____ , the program can be divided into equally sized sections called pages, but the pages need not be in memory at the same time for execution.
    A. demand paging
    B. paging
    C. demand segmentation
    D. partitioning

33. _____ is a measure of how tightly two modules are bound to each other.
    A. Interoperability
    B. Cohesion
    C. Coupling
    D. Modularity

34. In _____ sort, the smallest item from the unsorted list is swapped with the item at the beginning of the unsorted list.
    A. insertion
    B. bubble
    C. selection
    D. every

35. Multi-programming requires a _____ operating-system.
    A. parallel
    B. time-sharing
    C. distributed
    D. batch

36. Which of the following is equivalent to 24 in decimal?
    A. $(31)_8$
    B. $(11000)_2$
    C. $(1A)_{16}$
    D. None of the above

37. _____ is a protocol for accessing and transferring documents on the WWW.
    A. TELNET
    B. FTP
    C. SMTP
    D. HTTP

38. The _____ statement repeats one or more actions.
    A. decrement
    B. loop
    C. increment
    D. complement

39. We use a bit pattern called a _____ to modify another bit pattern.
    A. carry
    B. float
    C. byte
    D. mask

40. In a linked list, each element contains _____ .
    A. only data
    B. data and a link
    C. only a link
    D. neither data nor a link