

一、選擇題（每題 4 分，共 80 分）

1. A technology that enables voices, data, and images to be transmitted simultaneously as signals over twisted-pair telephone lines is (A)ATM (B)FDDI (C)EDI (D)ISDN (E)None of the above.
2. Which is the smallest piece of data that computers handle (A)bit (B)byte (C)record (D)field (E)None of the above.
3. Which of the following component is not included in CPU (A)Control unit (B)Register (C)ALU (D)Main memory (E)None of the above.
4. Which of the following has the highest speed (A)ROM (B)RAM (C)Register (D)Cache (E)EPROM.
5. A measurement that the number of instructions per second that the CPU can process is (A)MIPS (B)Machine cycle time (C)CPU cycle time (D)Baud rate (E)None of the above.
6. Which of the following is not a valid 8 bit code (after a parity code is added) in an even parity system (A)10111011 (B)11001111 (C)11111111 (D)00000000 (E) None of the above.
7. In 8 bit 1's complement number systems, $01101000 + 10011010$ equals to (A)11111100 (B)11111101 (C)00000010 (D)00000011 (E)None of the above.
8. The logic expression $Y\bar{X} + XY + X\bar{Y}$ is equivalent to (A) $XY(X + Y)$ (B) XY (C) $X + Y$ (D) $\bar{Y}\bar{X}$ (E)None of the above.
9. Which of the following gate represents the function that $f(0,0)=1, f(0,1)=1, f(1,0)=1, f(1,1)=0$ (A)Exclusive-OR (B)OR (C)NAND (D)NOR (E)None of the above.
10. A program is as follows:
NUMA = 23
NUMB = 10
IF NUMA >= NUMB
NUMTMP = NUMA
NUMA = NUMA - NUMB
NUMB = NUMTMP
ENDIF
After execution, the value of NUMA, NUMB, and NUMTMP are (A)23, 10, 23 (B)13, 23, 23 (C)-13, 10, 23 (D)13, 23, 13 (E)None of the above.
11. A language that allows the programmer to write statements, which can then be translated by compiler is (A)Machine language (B)Assembly language (C)FORTRAN (D)BASIC (E)None of the above.

(背面仍有題目,請繼續作答)

12. Which of the following is not an application software (A)Word processing (B)Spreadsheets (C)database (D)Graphics (E)None of the above.
13. Which of the following is correct (A)An assembler translates the assembly language program into machine language (B)An interpreter converts the entire program of a high level language into machine language before computer executes the program (C)A compiler converts each high level language statement into machine language and executes it immediately, statement by statement (D)Machine language cannot be executed with any language translation (E)None of the above.
14. Which of the following is not a method of file access (A)Sequential (B)Direct (C)Indexed sequential (D)Batch (E)None of the above.
15. A collection of related records forms a(n) (A)Field (B)Section (C)File (D)Database (E)None of the above.
16. Which of following is an illegal internet address (A)aaa.ncku.edu.tw (B)w3w.hinet.net (C)130.175.251.51 (D)140.112.256.10 (E)None of the above.
17. The interface that enables similar networks to communicate is (A)Repeater (B)Hub (C)Bridge (D)Router (E)None of the above.
18. The standard sets of rules and procedures for control of communications in a network is (A)Algorithms (B)Protocols (C)Instructions (D)Topologies (E)None of the above.
19. Which of the following data structures will take out the data in Last-in-first-out manner (A)Queue (B)List (C)Stack (D)Tree (E)None of the above.
20. When data is collected over several time period and then processed all at one time, this processing is (A)On-line (B)Batch (C)Real-time (D)Queue (E)None of the above.

二、問答題（每題 10 分，共 20 分）

1. 試繪圖並說明電腦之硬體之結構。
2. 試寫出 $(1514.9296875)_{10}$ 之 2, 8, 16 進制之數值表示法。