

大同大學九十一學年度轉學考試試題

考試科目：計算機概論

系別：資訊工程學系

級別：二年級

第 1 頁,共 3 頁

註：本次考試 不可以參考自己的書籍及筆記； 不可以查字典； 不可以使用計算器。

一、選擇題(單選題,每題二分) 40%：〔※請依題號順序答於答案卷上〕

1. Each of the following is a major category of computers *except* _____.
 - a. minicomputer
 - b. laptop computer
 - c. supercomputer
 - d. personal computer
2. ROM memory is described as nonvolatile because _____.
 - a. it can be altered but cannot be read or used
 - b. data and programs can be transferred into and out of ROM
 - c. its contents are erased when the power is turned off
 - d. it retains its contents even when the power is turned off
3. _____ technology increases overall processing capability by reducing the instructions to only those that are most frequently used.
 - a. SCSI
 - b. CISC
 - c. RISC
 - d. MIDI
4. Each of the following is a factor that determines access time on a hard disk *except* _____.
 - a. seek time
 - b. rotational delay
 - c. recording density
 - d. data transfer rate
5. The 2's complement of binary number 10001 is _____.
 - a. 01110
 - b. 01111
 - c. 10000
 - d. 10001
6. A(n) _____ is a computer system that maintains a centralized collection of information in the form of electronic messages.
 - a. e-mail system
 - b. global positioning system (GPS)
 - c. electronic data interchange (EDI)
 - d. bulletin board system (BBS)
7. A multiplexer, sometimes referred to as a MUX, _____.
 - a. converts digital signals of a computer into analog signals that are transmitted
 - b. combines more than one input signal into a single stream of data
 - c. handles the communications requirements of a larger computer
 - d. coordinates the transmission, receipt, and error checking of transmitted data
8. _____ operating systems used on personal computers usually support a single user running multiple programs at one time.
 - a. Single tasking
 - b. Multiprocessing
 - c. Virtual machine
 - d. Multitasking
9. If a peripheral device is changed or a hardware device is added to a computer system, a new _____ is needed.
 - a. diagnostic server
 - b. device server
 - c. device driver
 - d. diagnostic driver
10. Compressed files _____.
 - a. take less room on a disk but require more time to download or upload
 - b. take less room on a disk and require less time to download or upload
 - c. take more room on a disk but require less time to download or upload
 - d. take more room on a disk and require more time to download or upload

< 轉背面 >

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<接前面>

11. Which of the following is *not* an advantage that a database system offers over a file-oriented system?
- improved data integrity
 - increased data redundancy
 - improved data security
 - reduced development time
12. Connectors such as AND and OR can be used with the _____ relational operation.
- select
 - join
 - collision
 - project
13. The graphic or written description of the step-by-step procedure is called the _____.
- module
 - solution algorithm
 - subroutine
 - program specification
14. _____ is a methodology where all program logic is constructed from three control structures.
- Structured design
 - Do-while control structure
 - Top-down design
 - Proper program design
15. The _____ structure is used when a condition being tested can lead to one of three or more alternatives.
- iteration
 - do-while
 - do-until
 - case
16. A set of grammar or rules that specifies how instructions in a solution algorithm are to be written is called _____.
- pseudocode
 - logic
 - syntax
 - proper program design
17. Misspelling a command, leaving out required punctuation, or typing command words out of order generally results in a _____ error.
- dead code
 - logic
 - syntax
 - debug utility
18. Assembly language sometimes is referred to as _____ language.
- high-level
 - symbolic programming
 - third-generation
 - natural
19. A router is _____.
- a combination of hardware and software that allows users on one network to access the resources on a different type of network
 - a combination of hardware and software used to connect similar networks
 - an intelligent network connecting device that routes communications traffic directly to the appropriate network
 - all of the above
20. A pure _____ consists only of point-to-point lines between the central computer and the other computers on the network.
- star network
 - bus network
 - ring network
 - all of the above

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二、問答題 60%：〔※請依題號順序答於答案卷上〕

1. Briefly answer the following questions:

- 16% (a) What is a hyperlink? How are target hyperlinks, relative hyperlinks, and absolute hyperlinks different?
(b) What is structured design? Describe the *three* basic control structures used in structured design.
(c) What is the object-oriented approach to program development? What is a major benefit of the object-oriented approach?
(d) What is HyperText Markup Language (HTML)? Define a stand-alone HTML editor and an add-on HTML editor.

2. Find the error in each of the following C program segments and explain how to correct it:

- 10% (a) `printf("%s\n", 'Richard');`
(b) `char s[12];`
`strcpy(s, "Welcome Home");`
(c) `printf(%f, 123.456) ;`
(d) `char s[10];`
`scanf("%c",s[7]);`
(e) `union values {`
`char w;`
`float x;`
`double y;`
`} v = {1.27}`

3. What does the following C program print ? (8%)

8% `#include <stdio.h>`
`int mytsery(int, int);`
`main ()`
`{ int x=3, y=5;`
`printf("%d\n", mytsery(x, y));`
`x = -1; y = 1;`
`printf("%d\n", mytsery(x, y));`
`return 0;`
`}`
`int mytsery(int a, int b)`
`{ if (b == 1)`
`return a;`
`else`
`return a + mytsery(a, b-1);`
`}`

4. For the program in problem 3, state the scope (either function scope, file scope, block scope, or function prototype scope) of each of the following elements.

- (a) The variable `x` in `main`.
(b) The function `mytsery`.
(c) The function prototype for `mytsery`.
(d) The identifier `a` in the function prototype for `mytsery`.

5. Write a C function `sum_3D` that sums the elements in a three-dimensional array using a single pointer to traverse the array.
10% How much faster is this than using three-dimensional subscripting?

6. (a) What would happen in C if you declared the same function twice with different argument types? What would happen in C++?
8% (b) Compare and contrast `printf/scanf` style input/output in C with `cout/cin` style stream-oriented input/output in C++.