大同大學 100 學年度研究所碩士班入學考試試題

考試科目:計算機概論　　所別:資訊經營研究所　　

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

A. Select the best answer. (20%, 2 points each)

1. A computer can _____ . (a) accept data (b) process data (c) produce and store results (d) all of the above
2. A _____ controls access to the resources on a network. (a) server (b) workstation (c) client (d) tower
3. At a C2C Web site, a(n) _____ allows users to purchase from other consumers. (a) news server (b) online auction (c) wireless portal (d) shopping cart
4. Many public locations are _____ that provide wireless Internet connections to users with mobile computers. (a) plug-ins (b) hot spots (c) Web logs (d) chat place
5. _____ is not a step in Web publishing. (a) planning a web site (b) deploying a web site (c) creating a Web site (d) moderating a Web site
6. In an e-mail address, a _____ is a unique combination of characters that identifies a specific user. (a) domain name (b) URL (c) user name (d) dot com
7. With database software, users can run a _____, which is a request for specific data from the database. (a) query (b) function (c) record (d) field
8. A(n) _____ restricts access to specified Web sites. (a) legal software (b) spyware remover (c) Web filter (d) antivirus software
9. _____ is the electronic equivalent of a user manual. (a) Wizard (b) Online banking (c) Distance learning (d) Online Help
10. A _____, which can be used to upload and download files with other computers and on the Internet, is integrated in some operating systems. (a) FTP program (b) Web program (c) mail program (d) chat program
11. The processor also is called the _____. (a) chip (b)adapter card (c) motherboard (d) central processing unit
12. _____ is the process of obtaining a program instruction or data item from memory. (a) Fetching (b) Decoding (c) Executing (d) Storing
13. _____ is a 16-bit coding scheme that is capable of representing more than 65,000 characters and symbols, enough for almost all the world's current written languages. (a) Unicode (b) ASCII (c) Microcode (d) EBCDIC
14. A(n) _____ is a unique number that is the location of a byte in memory. (a) register (b) unicode (c) address (d) bit
15. A _____ port is an interface that connects devices by transferring more than one bit at a time. (a) serial (b) parallel (c) USB (d) mouse
16. The most widely used biometric device is the _____. (a) face recognition system (b) fingerprint scanner (c) hand geometry system (d) iris recognition.
17. The number of colors a graphics processing unit displays is determined by _____. (a) color bandwidth (b) pixel pitch (c) dot pitch (d) bit depth
18. _____ is the number of bits in an area on a storage medium. (a) Capacity (b) Density (c) KBps (d) Allocation unit
19. _____ storage requires sequential access. (a) Hard disk (b) Floppy disk (c) Tape (d) DVD
20. A _____ is a malicious-logic program. (a) virus (b) Trojan horse (c) worm (d) all of the above

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B. Write the detailed answer to each of the following questions. (80%, 10 points each)

1. Use 4-bit 2's complement number to compute 3+5, 6+(-1), (-7)+4, (-2)+(-8), and use 8-bit 2's complement number to compute 3+5, 6+(-1), (-7)+4, (-2)+(-8) again, and check all the errors?
2. How does the computing efficiency increase with the following methods (a) pipelining (b) parallel processing (c) cloud computing.
3. Explain the following terms: netiquette, IP address, URL, domain name, and intranet.
4. (a) Illustrate how to use the stack structure to evaluate the postfix expression 9 16 12 23 + * 5 / -

   (b) Convert the above postfix expression to both infix and prefix expression.
5. (a) What are the differences between "stack" and "queue"?

   (b) What operations can be done on a stack?

   (c) What operations can be done on a queue?
6. The sequential search is used with a list of n items.

   (a) What is the least number of comparisons the search will take?

   (b) What is the maximum number of comparisons the search will take?

   (c) What is the average number of comparisons?
7. The binary search is used with a list of n items.

   (a) What is the least number of comparisons the search will take?

   (b) What is the maximum number of comparisons the search will take?

   (c) What is the average number of comparisons?
8. Show the *breadth-first search tree* and *depth-first search tree* for the following graph starting from node 0.