

招生學年度	102	招生類別	碩士班
系所班別	運籌管理研究所碩士班(甲組)、資訊管理碩士學位學程		
科目	計算機概論		
注意事項	本考科禁止使用掌上型計算機		

一、Multiple Choice Questions (30%)

1. Which of the following statements concerning the *replication* and *duplication* process for updating distributed databases is correct?
  - a) Duplication is the more complicated process because it has to identify one database as a master and prevent changes being made to any database other than the master
  - b) Replication is the more complicated process because it must find changes in each distributed database and make appropriate changes to make each database identical
  - c) The two terms are interchangeable because the processes work the same way
  - d) None of the choices is correct.
  
2. What is the "legacy data acquisition" problem?
  - a) The cultural mindset that makes one manager resist sharing data with another.
  - b) The lack of data security, backup, and disaster recovery documentation.
  - c) Hardware vendor incompatibilities when storing and sharing multimedia data across platforms.
  - d) The problem of how to integrate massive data stored in a variety of old database formats.
  
3. Which of the following most comprehensively captures the various characteristics of a data warehouse?
  - a) organization, consistency, time variant, volatile, client/server, and web-based
  - b) organization, consistency, time variant, volatile, hierarchical, client/server, and web-based
  - c) organization, consistency, time variant, nonvolatile, relational client/server and web-based
  - d) organization, consistency, time variant, nonvolatile, hierarchical, client/server, and web-based
  
4. Which of the following statements is applicable to the Java programming language?
  - a) It is a page description language that creates hypertext or hypermedia documents
  - b) It consists of small application programs called applets that can be executed by any computer and any operating system anywhere in a network
  - c) It inserts control codes within a document that create links to other parts of the document or to other documents anywhere on the World Wide Web
  - d) It embeds control codes in the ASCII text of a document, which designates titles, headings, graphics, and multimedia components, as well as hyperlinks within the document
  
5. All of the following are popular programming languages for developing multimedia web pages, websites, and web-based applications *except*:
  - a) XML
  - b) COBOL
  - c) HTML
  - d) Java
  
6. According to Moore's Law, \_\_\_\_\_ doubles every 18 to 24 months.
  - a) computer storage capacity
  - b) computer prices
  - c) computing power
  - d) the number of functioning computers

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7. Which of the following is true of off-the-shelf software?

- a) It is developed with the intent to sell multiple copies
- b) The company buying the software has no control over the specifications, schedule, or evolution of the software
- c) The company that develops the software is not the intended audience
- d) All of the choices are correct.

8. Groupware aids collaboration by providing users with \_\_\_\_\_.

- a) electronic mail, scheduling, and task management
- b) electronic mail and word processing software
- c) electronic mail and spreadsheet software
- d) All of the choices are correct.

9. Speech recognition is gaining popularity in the corporate world for all the following reasons *except*:

- a) Accounting and auditing.
- b) Dictation.
- c) Web Browsing.
- d) Screen navigation.

10. A DBMS reduces data redundancy and inconsistency by

- a) uncoupling program and data.
- b) utilizing a data dictionary.
- c) enforcing referential integrity.
- d) minimizing isolated files with repeated data.

二、Questions (70%)

1. Please compare the layers of the Department of Defense reference model for TCP/IP and OSI model, and take an example to describe how they work. (20%)
2. Please explain and distinguish between pervasive computing, grid computing, cloud computing, and utility computing. (20%)
3. Please explain and distinguish between the conceptual, logical, and physical views of data. (10%)
4. Please compare between operational databases, data warehouses, and marketing data marts. Also, please take a web-based application (framework) to explain your answers further. (20%)