

1. Which of the following **best** describes *program-data independence* in Database Management Systems?
 - A. A data catalog that stores the description of a particular database.
 - B. The ability to refer to the data model constructs rather than data storage details.
 - C. Changing data structures and storage organization without having to change the DBMS applications.**
 - D. Enabling multiple users to use the DBMS at the same time.
 - E. None of the above.

2. Which of the following users is responsible for authorizing access to the database, for coordinating and monitoring its use, acquiring software and hardware resources, controlling its use and monitoring efficiency of operations?
 - A. Application Programmer.
 - B. Business analyst.
 - C. Database administrator.**
 - D. Database designer.
 - E. End-users.

3. The SQL relational language is a
 - A. Declarative Language.**
 - B. Functional Language.
 - C. Logical Language.
 - D. Procedural Language.
 - E. None of the above.

4. Which of the following schema architectures describes various user views?
 - A. Ad-hoc schema.
 - B. Conceptual schema.
 - C. External schema.**
 - D. Internal schema.
 - E. Application schema.

5. ——— is how the complexity of the database and its implementation details are hidden from users.
- A. Concurrency control.
 - B. Data abstraction.**
 - C. Data Integrity.
 - D. Data Isolation.
 - E. None of the above.
6. Which of the following is ***not true*** about the Database System and traditional file systems.
- A. The database system stores a complete definition of database. In traditional file system, data definition is included in application programs.
 - B. All Database system do not support multiple concurrent user access.**
 - C. In traditional file system, changes to the structure of a file will lead to changes to applications.
 - D. Data and programs are independent in database systems.
 - E. Data that are seen by users might be derived and are not explicitly stored in the database.
7. Which of the following ***not true*** regarding client-server architecture?
- A. The two-tier client-server architecture contains two layer: client layer and query server/transaction server.
 - B. In three-tier architecture, client can only access the middle tier, but database server can access client layer directly.**
 - C. User interface programs and application programs run on the client layer.
 - D. The three-tier architecture has an extra layer called application server or web server. It is located between client and database server layers.
 - E. The three-tier architecture has better database security than the two-tier architecture.
8. Which of the following is the most successful data model?
- A. Document based Model.
 - B. Hierarchical Model.
 - C. Network Mode.
 - D. Object Oriented Model
 - E. Relational Model.**