Chapter 2
Data Base System Concepts and Architecture

Multiple-Choice Questions:

1) Many airline reservation and telephone directory systems that support large number of concurrent transactions with little delay are categorized as _______.
   a) OLTP   b) RTS   c) AI   d) OFTP

2) _______ stores information about schemes, constraints, design decisions, usage standards and user information.
   a) data bank   b) repository   c) depository   d) tables

3) _______ is the ability to change the schema at one level of a database system without having to change the schema at next higher level.
   a) data exchange   b) data dependence   c) data independence   d) data binding

4) _______ data independence changes the conceptual scheme without changing the external scheme.
   a) physical   b) internal   c) low-level   d) logical

5) To change the constraints the _______ scheme needs to be changed.
   a) conceptual   b) physical   c) logical   d) low-level

6) To change the physical file structure the _______ scheme needs to be changed.
   a) conceptual   b) physical   c) logical   d) low-level

7) _______ language is used to define both the internal and conceptual scheme when there is no separation between these schemes.
   a) VDL   b) SDL   c) DDL   d) DML

8) _______ language is used to specify the internal schema.
   a) VDL   b) SDL   c) DDL   d) DML

9) _______ language is used to specify the user views and their mappings to conceptual schema.
   a) VDL   b) SDL   c) DDL   d) DML

10) _______ language is used to do insertion, deletion, retrieval, and modification of data.
    a) VDL   b) SDL   c) DDL   d) DML

11) A high-level DML used in stand-alone interactive manner is called _______ language.
    a) query   b) machine   c) assembly   d) natural

12) The description of schema constructs and constraints is called _______ data.
    a) dynamic   b) beta   c) meta   d) key

13) The description of a database is called database _______.
    a) schema   b) structure   c) construct   d) implementation

14) Each object in the scheme of a database is called _______.
    a) method   b) structure   c) construct   d) module
15) A state that satisfies the structure and constraints of a scheme is called ______ state.
   a) invalid  b) true  c) real  d) valid

16) The database state is called ______ of the schema.
   a) intension  b) extension  c) expansion  d) definition

17) A standard Open Database Connectivity (ODBC) provides an interface called ______.
   a) GUI  b) CLI  c) OOI  d) API

TRUE or FALSE:

1. Powerbuilder is an example of application development environment.  (T/F)

2. The conceptual scheme of a database cannot be changed once it is defined.  (T/F)

3. SQL is a Data Definition Language only.  (T/F)

4. A query language specifies which data to retrieve rather than how to retrieve it.  (T/F)

5. The DML commands can be embedded in a general-purpose programming language.  (T/F)

6. Database scheme is specified during database design.  (T/F)

7. Low-level DML is also called set-oriented DML.  (T/F)

8. High-level DML can specify and retrieve many records in single DML statement.  (T/F)

9. Database scheme changes very frequently.  (T/F)

10. The database state is also called an instance of database.  (T/F)

11. Only one database state can be constructed from a particular database schema.  (T/F)

12. Schema diagram does not show the data types of each data item.  (T/F)

Match the following:

| 1. DDL | Manipulates the data base | 4 |
| 2. SDL | Specifies user views and their mappings | 3 |
| 3. VDL | Specifies internal schema | 2 |
| 4. DML | Specifies conceptual and internal schema both or conceptual schema only | 1 |
### 1. Relational data model
- Represents database as collection of tables
- 1

### 2. Network model
- Standard for data interchange over Internet
- 4

### 3. Hierarchical model
- Represents data as tree structures
- 3

### 4. XML model
- Represents data as record types
- 2

### Short Answer Questions:

1. What are the criteria of classifying DBMS?
   - Ans. Data model,
     number of users supported by system,
     number of sites the database is distributed,
     cost of DBMS

2. What are the various database languages?
   - Ans. Data definition language (DDL),
     Storage definition language (SDL),
     View definition language (VDL),
     Data Manipulation language (DML)

3. What are the categories of Data models?
   - Ans. High-level or conceptual Data model,
     Low-level or physical Data model,
     Implementation Data model

4. What are the three levels of three-tier architecture?
   - Ans. Internal schema, Conceptual schema, External schema