Database Management Systems (DBMS) Quiz

1. What is the best definition of "Data"?

A. A collection of organized information.

B. Raw facts and figures that have not been processed.

C. A software used to create tables.

D. The output of a printer.

Answer: B

2. What does DBMS stand for?

A. Data Binary Management System.

B. Database Management Software.

C. Database Management System.

D. Digital Business Management System.

Answer: C

3. Which database model organizes data in a tree-like structure with parent and child records?

A. Relational Model

B. Network Model

C. Hierarchical Model

D. Document Model

Answer: C

4. Ensuring that data is accurate and consistent throughout its life cycle is known as:

A. Data Security

B. Data Integrity

C. Data Retrieval

D. Data Sharing

Answer: B

5. Which type of database is designed for unstructured data and is often used for big data applications?

A. RDBMS

B. NoSQL

C. Hierarchical

D. Network

Answer: B

6. In a Relational Database, data is stored in:

A. Folders

B. Key-value pairs

C. Tables (Rows and Columns)

D. Documents

Answer: C

7. Which of the following is an example of an RDBMS?

A. MongoDB

B. Cassandra

C. MySQL

D. Redis

Answer: C

8. In a database table, a single horizontal entry representing a record is called a:

A. Column

B. Field

C. Row (or Tuple)

D. Key

Answer: C

9. Which key uniquely identifies each record in a table and cannot contain NULL values?

A. Foreign Key

B. Primary Key

C. Alternate Key

D. Surrogate Key

Answer: B

10. What is a "Foreign Key"?

A. A key used to encrypt the database.

B. A column that points to the Primary Key in another table to create a link.

C. A key that can never be changed.

D. A key used only for mobile applications.

Answer: B

11. Which key is a combination of two or more columns that together uniquely identify a row?

A. Super Key

B. Candidate Key

C. Composite Key

D. Unique Key

Answer: C

12. All Candidate Keys that are NOT chosen as the Primary Key are called:

A. Super Keys

B. Alternate Keys

C. Surrogate Keys

D. Foreign Keys

Answer: B

13. What does a NULL value represent in a database?

A. A value of zero (0).

B. An empty string or space.

C. Missing or unknown data.

D. A deleted record.

Answer: C

14. Which operator is used to check for empty (missing) data in a column?

A. = NULL

B. IS EMPTY

C. IS NULL

D. IS NOT

Answer: C

15. A relationship where one teacher can have many students, but each student belongs to only one teacher (for a specific class) is:

A. One-to-One

B. One-to-Many

C. Many-to-Many

D. None of the above

Answer: B

16. What is the purpose of "Normalization"?

A. To increase the size of the database.

B. To reduce data redundancy and improve data integrity.

C. To make the database run slower.

D. To delete all records from a table.

Answer: B

17. A table is in First Normal Form (1NF) if:

A. It has no duplicate rows.

B. Every column contains only atomic (indivisible) values.

C. It has a Foreign Key.

D. It is connected to another table.

Answer: B

18. To be in Second Normal Form (2NF), a table must be in 1NF and:

A. Have no partial functional dependencies.

B. Have no transitive dependencies.

C. Have at least 100 rows.

D. Be encrypted.

Answer: A

19. Third Normal Form (3NF) focuses on removing:

A. Primary Keys.

B. Atomic values.

C. Transitive dependencies.

D. Rows with NULL values.

Answer: C

20. Which Normal Form is a slightly stronger version of 3NF, often dealing with multiple overlapping candidate keys?

A. 2NF

B. BCNF (Boyce-Codd Normal Form)

C. 4NF

D. 5NF

Answer: B

21. What is "Denormalization"?

A. The first step of creating a database.

B. The process of adding redundant data back into a database to improve read performance.

C. A method to delete Primary Keys.

D. A way to convert RDBMS to NoSQL.

Answer: B

22. Which database application involves managing customer accounts and transactions?

A. Human Resources

B. Banking

C. Manufacturing

D. Online Sellers

Answer: B

23. Which database model is specifically designed to store data as nodes and edges to show connections?

A. Document Model

B. Key-Value Model

C. Graph Database Model

D. Relational Model

Answer: C

24. In an RDBMS, the vertical part of a table that describes a specific attribute is called a:

A. Row

B. Record

C. Column (or Field)

D. Relation

Answer: C

25. A "Surrogate Key" is typically:

A. A natural value like a Social Security Number.

B. An artificially generated unique value (like an Auto-Increment ID).

C. A key imported from another database.

D. A key that allows duplicate values.

Answer: B