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| **Batch ID: ESAD/C#/SCSL-A/58** | **(MODULE- 02)** | | ***Date***:- |
| **Name:** | **Obtained Marks:** |  | **Time:** |
| **Student ID:** | **Full Marks:** |

**[Answer the following Questions:]**

**1. What are the hardware components of a client/server system?**

Three hardware components of a client/server system: the clients, the network, and the server.

**2. Describe the hardware components of a client/server system**.

1. The clients are the PCs, Macs, or workstations of the system.
2. The network is the cabling, communication lines, network interface cards, hubs, routers, and other components that connect the clients and the server.
3. The server is a computer that stores the files and databases of the system and provides services to the clients. When it stores databases, it's a database server.

**3. What is API?**

API stands for application programming interface. The data access API provides the interface between the application program and the DBMS. The newest Microsoft API is ADO.NET, which can communicate directly with SQL Server.

**4. What is SQL?**

SQL stands for Structured Query Language, which is the standard language for working with a relational database.

**5. What is Application server?**

Application servers are typically used to store business components that do part of the processing of the application. In particular, these components are used to process database requests from the user interface running on the client.

**6. What is Web server?**

Web servers are typically used to store web applications and web services. Web applications are designed to run on a web server. **Web services** are like business components, Like web applications, they are designed to run on a web server.

**7. What is the use of relational model?**

It can reduce **data redundancy**, saves **disk storage** and leads to **efficient data retrieval**. It helps to view and manipulate data efficiently.

**8. What is table?**

A relational database consists of tables. Table is viewed as a **two-dimensional matrix** consists of rows and columns that can be referred to as records and fields. It is modeled after **a real-world entity**. The **columns** of the table represent the attributes of the entity and **row** of the table represents one **instance** of the entity. A value is stored at the **intersection** of each row and column that is called a cell.

**9. What is PRIMARY KEY?**

One or more columns of a table that uniquely identifies each row in the table is called primary key. The primary key is usually a single column, but it can also consist of two or more columns. If a primary key uses two or more columns, it's called a **composite primary** key.

**10. What is UNIQUE KEY?**

In addition to primary keys, some DBMS let us define one or more **non-primary keys**. These keys are called **unique keys**. A non-primary key also uniquely identifies each row in the table.

**11. What is an INDEX?**

An index provides an efficient way to access data from a table based on the values in specific columns. An index is **automatically** created for a table’s **primary and non-primary keys**.

**12. What is FOREIGN KEY?**

A FOREIGN KEY a column or group of columns in one table that refers to the PRIMARY KEY in another table that provides a link between data in two tables.

**13. What is Relationship between tables?**

The relationships between the tables in a database correspond to the relationships between the entities they represent. The most common type of relationship is a one-to-many relationship. A table can also have a one-to-one relationship or a many-to-many relationship with another table.

**14. What is data type of column?**

The data type of a column determines the type and size of the information that can be stored in the column.

**15. What does Null value indicate?**

It is a column property. A null value indicates that the value of the column is unknown.

**16. What is the use of default value?**

Default value is used if another value isn't provided when a row is added to the table.

**17. What is identity column?**

An identity column is a numeric column whose value is generated automatically when a row is added to the table.

**18. What do you know about hierarchical and network database models?**

The hierarchical and network database models were predecessors to the relational database model. The **hierarchical database** model provides only for **one-to-many relationships**, called parent/child relationships. The **network database** model is an extension of the hierarchical model that provides for all types of relationships.

**19. Elaborate the following**:

**ANSI-** American National Standards Institute. **TSQL** - Transact-SQL.

**RDBMS** - Relational Database Management System **DML**- Data Manipulation Language **DDL-** Data Definition Language **SEQUEL**- Structured English Query Language.

**20. What is REFERENCES?**

The REFERENCES clause for a column indicates that the column contains a foreign key, and it names the table and column that contains the primary key.

**21. What is result table, or result set?**

The SELECT statement is used to retrieve selected columns and rows from a base table. The result of a SELECT statement is a result table, or result set.

**22. What is Join?**

Join lets us combine data from two or more tables into a single result set. The most common type of join is an **inner join** that returns rows from both tables only if their related columns match, another is **outer join** that returns rows from one table in the join even if the other table doesn't contain a matching row.

**23. What is Action Query?**

The execution of an INSERT, UPDATE, or DELETE statement is often referred to as an action query.

**24. What is Query?**

The execution of a SELECT statement is commonly referred to as a query.

**25. What is View?**

A view consists of a **SELECT** statement that's stored with the database. A view is a predefined query that's stored in a database. A view is sometimes referred to as a **viewed or virtual table**.

**26. What is stored procedure?**

A stored procedure is one or more SQL statements that have been **compiled** and stored with the database. It can improve database performance because the SQL statements in each procedure are only **compiled and optimized** the first time they're executed.

**27. What is trigger?**

**Trigger** is a special type of **procedur**e that's executed when rows are inserted, updated, or deleted from a table or when the definition of a database is changed.

**28. What is UDF?**

A **user-defined function** (UDF) is a special type of procedure that can return a value or a table.