**Basic Concepts**

1. What does T-SQL stand for?  
   a) Transaction SQL  
   b) Transact-SQL \*  
   c) Trigger-SQL  
   d) Transfer-SQL
2. Which keyword is used to retrieve data in T-SQL?  
   a) SELECT \*  
   b) FETCH  
   c) RETRIEVE  
   d) OUTPUT
3. What is the function of the WHERE clause in a query?  
   a) Filters rows based on a condition \*  
   b) Groups data  
   c) Orders the data  
   d) Updates data
4. How do you combine data from two tables based on a related column?  
   a) JOIN \*  
   b) UNION  
   c) MERGE  
   d) GROUP
5. What is the default ordering when using the ORDER BY clause?  
   a) Descending  
   b) Ascending \*  
   c) Random  
   d) None

**Data Types and Operators**

1. Which T-SQL data type is used to store a monetary value?  
   a) INT  
   b) MONEY \*  
   c) DECIMAL  
   d) FLOAT
2. What does the '%' operator in T-SQL represent?  
   a) Logical AND  
   b) Modulus (remainder) \*  
   c) Division  
   d) Logical OR
3. Which of the following is a character data type in T-SQL?  
   a) NVARCHAR \*  
   b) BIGINT  
   c) BIT  
   d) FLOAT
4. How do you write a single-line comment in T-SQL?  
   a) /\* Comment \*/  
   b) // Comment  
   c) -- Comment \*  
   d) # Comment
5. What will the result of 10 / 3 be in T-SQL when using INT data type?  
   a) 3 \*  
   b) 3.33  
   c) 4  
   d) Error

**Joins and Subqueries**

1. What type of JOIN retrieves matching rows from both tables?  
   a) INNER JOIN \*  
   b) LEFT JOIN  
   c) RIGHT JOIN  
   d) FULL OUTER JOIN
2. Which type of JOIN retrieves all rows from the left table and matching rows from the right?  
   a) INNER JOIN  
   b) LEFT JOIN \*  
   c) RIGHT JOIN  
   d) CROSS JOIN
3. Which clause is used to filter rows in a subquery?  
   a) WHERE \*  
   b) GROUP BY  
   c) HAVING  
   d) SELECT
4. How do you rename a column in the result set of a query?  
   a) RENAME column\_name  
   b) column\_name AS alias\_name \*  
   c) MODIFY column\_name  
   d) ALIAS column\_name
5. What does the keyword EXISTS do in T-SQL?  
   a) Checks if a column exists  
   b) Returns true if a subquery returns rows \*  
   c) Deletes a table  
   d) Creates a new schema

**Functions**

1. Which function is used to return the current system date and time?  
   a) SYSDATETIME \*  
   b) GETDATE  
   c) CURRENT\_DATE  
   d) NOW
2. What does the LEN() function do?  
   a) Counts rows in a table  
   b) Returns the length of a string \*  
   c) Adds two strings  
   d) Truncates a string
3. What does the AVG() function calculate?  
   a) Total  
   b) Minimum value  
   c) Maximum value  
   d) Average value \*
4. What does the ISNULL() function do?  
   a) Returns TRUE if a value is NULL  
   b) Replaces NULL with a specified value \*  
   c) Removes NULL values from a table  
   d) Deletes NULL records
5. Which function would you use to extract the year from a date column?  
   a) YEAR() \*  
   b) GETYEAR()  
   c) EXTRACT()  
   d) DATEPART(YEAR)

**Advanced Concepts**

1. Which statement is used to modify an existing row in a table?  
   a) UPDATE \*  
   b) MODIFY  
   c) ALTER  
   d) INSERT
2. What does the RANK() function do?  
   a) Assigns unique ranks to rows in a result set \*  
   b) Groups data  
   c) Returns the row count  
   d) Filters data
3. Which clause is used to filter groups of data?  
   a) WHERE  
   b) GROUP BY  
   c) HAVING \*  
   d) FILTER
4. What is the purpose of the TRY...CATCH block?  
   a) Execute a query  
   b) Handle errors \*  
   c) Create a backup  
   d) Commit a transaction
5. Which operator is used to check for a range of values?  
   a) IN  
   b) BETWEEN \*  
   c) RANGE  
   d) LIKE

**Transactions**

1. What is the purpose of BEGIN TRANSACTION?  
   a) Start a transaction \*  
   b) Commit a transaction  
   c) Roll back a transaction  
   d) End a transaction
2. What does ROLLBACK do in a transaction?  
   a) Save changes  
   b) Undo changes \*  
   c) Add data  
   d) Delete data
3. How can you make changes permanent in a transaction?  
   a) COMMIT \*  
   b) SAVE  
   c) INSERT  
   d) MERGE
4. Which keyword is used to set a save point in a transaction?  
   a) SAVE TRANSACTION \*  
   b) TEMP  
   c) CHECKPOINT  
   d) ROLLBACK
5. What is ACID in T-SQL?  
   a) A set of properties for transactions \*  
   b) A database engine  
   c) An encryption method  
   d) A data type

**Performance and Optimization**

1. What does the EXPLAIN keyword do?  
   a) Shows the query plan \*  
   b) Deletes data  
   c) Executes a query  
   d) Updates a view
2. What is an index used for in T-SQL?  
   a) Improve query performance \*  
   b) Delete data  
   c) Change schema  
   d) Filter data
3. What is the default isolation level in SQL Server?  
   a) Read Committed \*  
   b) Read Uncommitted  
   c) Serializable  
   d) Snapshot
4. How can you limit the number of rows returned in a result set?  
   a) LIMIT  
   b) TOP \*  
   c) ROWNUM  
   d) OFFSET
5. What is a clustered index?  
   a) Sorts and stores data in table rows \*  
   b) Index that references data by row ID  
   c) Temporary index  
   d) Index without order

**Miscellaneous**

1. Which statement is used to create a table?  
   a) CREATE TABLE \*  
   b) CREATE DATABASE  
   c) INSERT TABLE  
   d) DEFINE TABLE
2. What is a stored procedure?  
   a) Precompiled set of SQL statements \*  
   b) Temporary table  
   c) System query  
   d) Data backup
3. What does the TRUNCATE statement do?  
   a) Deletes all rows without logging \*  
   b) Deletes specific rows  
   c) Alters table structure  
   d) Drops a table
4. How do you check the structure of a table?  
   a) DESCRIBE \*  
   b) SHOW TABLES  
   c) VIEW TABLE  
   d) ANALYZE
5. What does the UNION operator do?  
   a) Combines results of two queries, removing duplicates \*  
   b) Combines all rows  
   c) Updates data  
   d) Filters rows

**Security**

1. What does GRANT do in T-SQL?  
   a) Gives permissions \*  
   b) Revokes permissions  
   c) Deletes data  
   d) Updates schema
2. What does REVOKE do?  
   a) Removes permissions \*  
   b) Adds permissions  
   c) Encrypts data  
   d) Deletes schema
3. How can you encrypt a column in T-SQL?  
   a) ENCRYPTION BY KEY \*  
   b) HASH()  
   c) ENCODE()  
   d) ENCRYPT()
4. What does the DENY statement do?  
   a) Denies specific permissions \*  
   b) Grants all permissions  
   c) Removes permissions  
   d) Deletes data
5. Which command lists all user-defined roles in SQL Server?  
   a) sp\_helpdb  
   b) sp\_helprolemember  
   c) sp\_helpuser \*  
   d) sp\_helpgroup

**Error Handling**

1. How do you raise a user-defined error?  
   a) RAISERROR \*  
   b) THROWERROR  
   c) RAISEERROR  
   d) THROW
2. What does @@ERROR return?  
   a) Error number of the last T-SQL statement \*  
   b) Status of the connection  
   c) Number of rows affected  
   d) System date
3. What does the TRY block do?  
   a) Catches errors  
   b) Executes code and monitors for errors \*  
   c) Deletes errors  
   d) Updates data
4. How can you handle a divide-by-zero error?  
   a) Using NULLIF() \*  
   b) Using TRY-CATCH  
   c) Using ISNULL()  
   d) Using COALESCE()
5. What is the default error severity level for RAISERROR?  
   a) 10  
   b) 11 \*  
   c) 16  
   d) 20