Certainly! Here are some interview questions that combine skills in Power BI, SQL Server Management Studio (SSMS), and SQL:

**Power BI:**

1. **What is Power BI and how does it differ from SSRS (SQL Server Reporting Services)?**
2. **Explain the difference between a calculated column and a measure in Power BI.**
3. **How do you handle row-level security in Power BI?**
4. **What is a slicer in Power BI, and how is it different from a filter?**
5. **How can you create a custom hierarchy in Power BI?**

**SSMS and SQL Server:**

1. **Explain the purpose of SQL Server Management Studio (SSMS) and its key components.**
2. **How do you optimize a SQL query in SSMS for better performance?**
3. **What is the purpose of an index in a SQL Server database, and how does it improve query performance?**
4. **Explain the differences between a clustered and a non-clustered index.**
5. **How do you restore a SQL Server database backup using SSMS?**

**Integration of Power BI with SQL Server:**

1. **Explain the process of importing data from a SQL Server database into Power BI.**
2. **How do you create a relationship between tables in Power BI, especially when dealing with multiple tables from a SQL Server database?**
3. **Describe the steps to implement incremental refresh in Power BI when connected to a large SQL Server database.**
4. **What are the advantages of using DirectQuery over Import mode when connecting Power BI to SQL Server?**
5. **How can you use dynamic parameters in Power BI to filter data based on user input from a SQL Server database?**

**Advanced SQL and SSMS:**

1. **Explain the concept of a CTE (Common Table Expression) in SQL and provide an example.**
2. **How do you handle NULL values in SQL queries, and what is the difference between NULL and an empty string?**
3. **What is the purpose of the PIVOT and UNPIVOT operators in SQL, and when would you use them?**
4. **How can you use the ROW\_NUMBER() function to rank rows in a SQL query?**
5. **Explain the concept of stored procedures in SQL Server, and how do you create and execute one using SSMS?**

These questions cover a range of topics, from basic concepts to more advanced features, providing a comprehensive assessment of skills in Power BI, SSMS, and SQL. Depending on the specific role and requirements, you can tailor the questions accordingly.

Certainly! Here are interview questions along with sample answers for candidates with combined skills in Power BI, SQL Server Management Studio (SSMS), and SQL:

**Power BI:**

1. **Question: What is Power BI and how is it used in data analysis?**
   * *Answer: Power BI is a business analytics tool by Microsoft that enables users to visualize and share insights from their data. It allows for the creation of interactive reports and dashboards using a variety of data sources, making data analysis and visualization more accessible.*
2. **Question: Explain the difference between a calculated column and a measure in Power BI.**
   * *Answer: A calculated column is a column within a table that you define, and its values are calculated row-by-row. A measure, on the other hand, is a dynamic aggregate value calculated based on the entire dataset. Measures are typically used in visualizations, and they respond to filters and slicers.*
3. **Question: How do you handle row-level security in Power BI?**
   * *Answer: Row-level security in Power BI is implemented by defining roles and filters. Roles are created based on user roles in the organization, and filters are applied to restrict data access. This ensures that each user sees only the data they are authorized to view.*

**SSMS and SQL Server:**

1. **Question: What is SQL Server Management Studio (SSMS), and how is it used in database management?**
   * *Answer: SSMS is an integrated environment for managing SQL Server databases. It provides tools for database design, queries, and administration. With SSMS, you can connect to and interact with SQL Server instances, create and modify databases, and execute queries and scripts.*
2. **Question: How do you optimize a SQL query in SSMS for better performance?**
   * *Answer: Query optimization involves various strategies, such as using indexes, avoiding SELECT \* statements, optimizing JOINs, and using appropriate WHERE clauses. Analyzing query execution plans, avoiding unnecessary functions, and ensuring proper indexing are key aspects of optimization.*

**Integration of Power BI with SQL Server:**

1. **Question: Describe the process of importing data from a SQL Server database into Power BI.**
   * *Answer: In Power BI Desktop, you can use the "Get Data" option to connect to SQL Server. Provide the server details, select the database and table, and then transform or load the data as needed. Once imported, you can create visualizations based on the SQL Server data.*
2. **Question: How do you create a relationship between tables in Power BI, especially when dealing with multiple tables from a SQL Server database?**
   * *Answer: Relationships in Power BI are established by connecting fields in different tables. In Power BI Desktop, go to the "Model" view, drag and drop fields between tables to create relationships. Ensure that relationships are properly defined to avoid issues in data analysis.*

**Advanced SQL and SSMS:**

1. **Question: Explain the concept of a CTE (Common Table Expression) in SQL and provide an example.**
   * *Answer: A CTE is a named temporary result set in a SELECT statement that can be referenced within the scope of another SELECT, INSERT, UPDATE, or DELETE statement. Example:*

WITH SalesCTE AS (

SELECT ProductID, SUM(SalesAmount) AS TotalSales

FROM Sales

GROUP BY ProductID

)

SELECT \* FROM SalesCTE;

**2)Question: How can you use the ROW\_NUMBER() function to rank rows in a SQL query?**

* *Answer: The ROW\_NUMBER() function assigns a unique number to each row based on the specified ordering. Example:*

SELECT ProductID, ProductName, Price,

ROW\_NUMBER() OVER (ORDER BY Price DESC) AS Rank

FROM Products;

**3)Question: Explain the concept of stored procedures in SQL Server, and how do you create and execute one using SSMS?**

* *Answer: A stored procedure is a precompiled collection of one or more SQL statements. To create one in SSMS, use the CREATE PROCEDURE statement. Example:*

CREATE PROCEDURE GetEmployeeCount

AS

SELECT COUNT(\*) AS EmployeeCount FROM Employees;

**To execute:**

EXEC GetEmployeeCount;

These questions and answers cover a range of topics, providing a comprehensive assessment of a candidate's skills in Power BI, SSMS, and SQL. Tailor them based on the specific requirements of the role you are hiring for.