𝗖𝗼𝗺𝗽𝗹𝗲𝘁𝗲 𝗥𝗼𝗮𝗱𝗺𝗮𝗽 𝘁𝗼 𝗟𝗲𝗮𝗿𝗻 𝗦𝗤𝗟 𝗳𝗿𝗼𝗺 𝗕𝗲𝗴𝗶𝗻𝗻𝗲𝗿 𝘁𝗼 𝗘𝘅𝗽𝗲𝗿𝘁:  
  
1. 𝗜𝗻𝘁𝗿𝗼𝗱𝘂𝗰𝘁𝗶𝗼𝗻 𝘁𝗼 𝗗𝗮𝘁𝗮𝗯𝗮𝘀𝗲𝘀 𝗮𝗻𝗱 𝗦𝗤𝗟:  
- Understanding Databases  
- Types of databases (Relational, NoSQL)  
- Introduction to SQL  
- Setting up a Database Environment  
- Installing a Database Management System (DBMS)  
  
2. 𝗕𝗮𝘀𝗶𝗰 𝗦𝗤𝗟 𝗤𝘂𝗲𝗿𝗶𝗲𝘀:  
- SELECT statement  
- Retrieving data from a single table  
- Filtering data using WHERE clause  
- Sorting and limiting results  
- ORDER BY and LIMIT clauses  
  
3. 𝗔𝗱𝘃𝗮𝗻𝗰𝗲𝗱 𝗦𝗘𝗟𝗘𝗖𝗧 𝗦𝘁𝗮𝘁𝗲𝗺𝗲𝗻𝘁𝘀:  
- Joins  
- INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN  
- Subqueries  
- Using subqueries in SELECT, WHERE, and FROM clauses  
- Set Operations  
- UNION, INTERSECT, EXCEPT  
  
4. 𝗗𝗮𝘁𝗮 𝗠𝗼𝗱𝗶𝗳𝗶𝗰𝗮𝘁𝗶𝗼𝗻 𝗦𝘁𝗮𝘁𝗲𝗺𝗲𝗻𝘁𝘀:  
- INSERT, UPDATE, DELETE  
- Transaction Management  
- COMMIT, ROLLBACK, SAVEPOINT  
  
5. 𝗔𝗴𝗴𝗿𝗲𝗴𝗮𝘁𝗲 𝗙𝘂𝗻𝗰𝘁𝗶𝗼𝗻𝘀 𝗮𝗻𝗱 𝗚𝗿𝗼𝘂𝗽𝗶𝗻𝗴:  
- AVG, SUM, COUNT, MIN, MAX  
- GROUP BY and HAVING clauses  
  
6. 𝗜𝗻𝗱𝗲𝘅𝗲𝘀 𝗮𝗻𝗱 𝗢𝗽𝘁𝗶𝗺𝗶𝘇𝗮𝘁𝗶𝗼𝗻:  
- Understanding indexes  
- Query optimization techniques  
  
7. 𝗖𝗼𝗻𝘀𝘁𝗿𝗮𝗶𝗻𝘁𝘀 𝗮𝗻𝗱 𝗡𝗼𝗿𝗺𝗮𝗹𝗶𝘇𝗮𝘁𝗶𝗼𝗻:  
- Primary key, foreign key  
- Database normalization concepts  
  
8. 𝗔𝗱𝘃𝗮𝗻𝗰𝗲𝗱 𝗗𝗮𝘁𝗮𝗯𝗮𝘀𝗲 𝗗𝗲𝘀𝗶𝗴𝗻:  
- Entity-Relationship Diagrams (ERD)  
- Designing complex databases  
  
9. 𝗦𝘁𝗼𝗿𝗲𝗱 𝗣𝗿𝗼𝗰𝗲𝗱𝘂𝗿𝗲𝘀 𝗮𝗻𝗱 𝗙𝘂𝗻𝗰𝘁𝗶𝗼𝗻𝘀:  
- Creating and using stored procedures  
- User-defined functions  
  
10. 𝗩𝗶𝗲𝘄𝘀 𝗮𝗻𝗱 𝗜𝗻𝗱𝗲𝘅𝗶𝗻𝗴:  
- Creating and managing views  
- Understanding and optimizing indexes  
  
11. 𝗔𝗱𝘃𝗮𝗻𝗰𝗲𝗱 𝗧𝗼𝗽𝗶𝗰𝘀:  
- Recursive Queries  
- Window Functions  
  
12. 𝗗𝗮𝘁𝗮 𝗧𝘆𝗽𝗲𝘀 𝗮𝗻𝗱 𝗔𝗱𝘃𝗮𝗻𝗰𝗲𝗱 𝗗𝗮𝘁𝗮 𝗠𝗮𝗻𝗶𝗽𝘂𝗹𝗮𝘁𝗶𝗼𝗻:  
- Working with different data types  
- Manipulating strings, dates, and numeric data  
  
13. 𝗦𝗲𝗰𝘂𝗿𝗶𝘁𝘆 𝗮𝗻𝗱 𝗣𝗲𝗿𝗺𝗶𝘀𝘀𝗶𝗼𝗻𝘀:  
- Granting and revoking permissions  
- SQL injection prevention  
  
14. 𝗕𝗮𝗰𝗸𝘂𝗽 𝗮𝗻𝗱 𝗥𝗲𝗰𝗼𝘃𝗲𝗿𝘆:  
- Database backup strategies  
- Point-in-time recovery