DBMS

- **What is a DBMS, and why is it important?**
- **Differentiate between a database and a DBMS.**
- **What are the ACID properties in DBMS?**
- **What is normalisation in DBMS?**
- **Explain the different types of database models.**
- **What is a primary key and a foreign key?**
- **What is indexing in DBMS?**
- **Describe the types of joins in SQL.**
- **What is a transaction in DBMS?**
- **What are the advantages and disadvantages of using a relational database?**
- **How does a DBMS ensure data consistency?**
- **What is the purpose of the COMMIT and ROLLBACK statements?**
- **Explain the concept of data integrity.**
- **Describe the process of database backup and recovery.**
- **What is the difference between clustered and non-clustered indexes?**
- **How does a DBMS handle concurrent transactions?**
- **Explain the concept of deadlock in DBMS.**
- **Describe the concept of data warehousing.**
- **What is the difference between OLTP and OLAP?**
- **How would you optimize a database query for better performance?**
- **What is a schema in DBMS?**
- **Explain the concept of data normalisation.**
- **What is a stored procedure?**
- **How does indexing affect database performance?**

- **Describe the concept of data mining.**
- **What is the difference between a view and a table?**
- **Explain the concept of referential integrity.**
- **Describe the concept of a trigger in DBMS.**
- **What are the different types of database constraints?**
- **How would you handle data replication in a distributed database system?**
- **Explain the concept of data warehouse architecture.**
- **What is the difference between a heap and a clustered table?**
- **How does a DBMS handle security and access control?**
- **What is a deadlock, and how can it be resolved?**
- **Describe the concept of data normalisation forms (1NF, 2NF, 3NF).**
- **What is a composite key?**
- **Explain the concept of a candidate key.**
- **What is the difference between a left join and an inner join?**
- **Describe the concept of data encapsulation.**
- **What is the purpose of a database index?**
- **Explain the concept of database transaction isolation levels.**
- **What is the role of a database administrator (DBA)?**
- **How does a DBMS handle data concurrency and locking?**
- **Describe the concept of database sharding.**
- **What is the difference between a unique key and a primary key?**
- **Explain the concept of data redundancy.**
- **What is the purpose of a data dictionary?**
- **Describe the concept of database normalisation forms (BCNF, 4NF, 5NF).**
- **What is the difference between a view and a materialised view?**
- **How does a DBMS handle query optimisation?**