

- **Introduction To RDBMS**

- Introduction to popular RDBMS product and their features
- Difference Between DBMS and RDBMS
- Relationship among application programs and RDBMS

- **PLSQL**

- Overview of PLSQL
- Data Types
- PLSQL Block
- % type, % rowtype
- Operators, Functions, comparison, numeric, character, date
- Control Statement
- Exception Handling
- Predefined
- User defined exceptions
- Functions , Procedures
- Cursor
- Definition
- Types of cursor- implicit, explicit (attributes)
- Parameterized cursor
- Trigger
- Package

- **Transaction Management**

- Transaction Concept
- Transaction Properties
- Transaction States
- Concurrent Execution
- Serializability
- Conflict Serializability
- View Serializability
- Recoverability
- Recoverable Schedule
- Cascadless Schedule

- **Concurrency Control**

- Lock Based Protocol
- Locks

- Granting of Locks
- Two Phase Locking Protocol
- Timestamp Based Protocol
- Timestamp
- Timestamp ordering protocol
- Thomas's Write Rule
- Validation Based Protocol
- Deadlock Handling
- Deadlock Prevention
- Deadlock Detection
- Deadlock Recovery

- **Recovery System**

- Failure Classification
- Transaction Failure
- System Crash
- Disk Failure
- Storage Structures
- Storage Types
- Data Access
- Recovery & Atomicity
- Log based Recovery
- Deferred Database Modification
- Immediate Database Modification
- Checkpoints
- Recovery with Concurrent Transaction
- Transaction Rollback
- Restart Recovery
- Remote Backup System