

**MODULE I**

Introduction, Characteristics of databases, File system v/s Database system, Data Abstraction and Data Independence, DBMS system architecture, Database Administrator.

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**Module V**

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**Module VI**

Transaction concept, Transaction states, ACID properties, Transaction control commands, Concurrent Executions, Serializability - Conflict and View, Concurrency Control : Lock-based, Timestamp-based protocols, Recovery System : Log based recovery, Deadlock handling.

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