

	Indexing and Hashing- Basic concepts, Static Hashing, Dynamic Hashing, ordered indices, Multi-level indexes, B-Tree index files, B+- Tree index files, Buffer management Transaction processing concepts: Transaction processing system, schedule and recoverability, Testing of serializability, Serializability of schedules, conflict & view serializable schedule, recovery from transaction failures, deadlock handling.	
Unit 5	Concurrency Control Techniques: Locking Techniques for concurrency control, time stamping protocols for concurrency control, concurrency control in distributed systems. multiple granularities and multi-version schemes. Case Studies: Commercial databases, Oracle, Postgress, MySQL	14
Total		42

Books:-

S.No.	Name of Books/Authors/Publisher
1	Elmasri, Navathe,"Fundamentals of Database systems", Addison Wesley, 2006.
2	Korth, Silbertz, Sudarshan,"Data base concepts", McGraw-Hill, 2001.
3	Ramakrishna, Gehkre, "Database Management System", McGraw Hill,2002.
4	Date C.J.,"An Introduction to Database systems", 2004