This course provides the students with advanced concepts in database management systems. It covers the advanced practical skills in database design, usage, optimizing performance and security. It also presents the concepts of object-oriented and distributed databases and their building structures as well as the different mechanisms to improve the database performance and solve concurrency problems.

**Course Description:**

This course provides the students with advanced concepts in database management systems. It covers the advanced practical skills in database design, usage, optimizing performance and security. It also presents the concepts of object-oriented and distributed databases and their building structures as well as the different mechanisms to improve the database performance and solve concurrency problems.

**Course Contents:**

1. Distributed database concepts (design and implementation).
3. Database concurrency control.
4. Backup/retrieval/recovery systems.
5. Database security.
6. Processes management in databases.

**Course Outcomes:**

1. To know the concepts of distributed Database (design and implementation).
2. To know important skills and advanced mechanisms used to improve database performance.
3. To understand process management of databases and be able to analyze and troubleshoot database concurrency problems.
4. To use and utilize database security mechanisms.

**Textbook:**


**Extra References:**