Advanced Database Management Systems
Code: CSET 152
100 Marks [70% Exam, 20% Quizzes/Class Tests, 10% Attendance]
4 Credits, 44 Contact hours, Exam. Time: 3 hours

Course Contents:

Database-System Applications, Purpose of Database Systems, View of Data, Database Languages, Relational Databases, Database Design, Data Storage and Querying, Transaction Management, Database Architecture, Data Mining and Information, Retrieval, Specialty Databases, Database Users and Administrators.

Structure of Relational Databases, Database Schema, Keys, Schema, Diagrams, Relational Query Languages, Relational Operations.

Overview of the SQL Query, Language, SQL Data Definition, Basic Structure of SQL, Queries, Additional Basic Operations, Set Operations, Null Values, Aggregate Functions, Nested Sub-queries, Modification of the Database.

Physical storage and indexing structures, Query processing algorithms, Query optimization, Transaction processing and serializability, Concurrency Control, Recovery, Parallel and distributed databases, XQuery and XML query evaluation, Emerging database trends,data mining, data warehousing, distributed database, object oriented database, spatial and temporal database.

Books :
1. Silberschatz, Korth & Sudarshan , "Database System Concepts, 5th Ed", McGraw-Hill 2005.
2. Ceri, Pelagatti, "Distributed Databases Principles & Systems", McGraw Hill
3. Hansen & Hansen, "Database Management and Design2nd ed", PHI
4. Shah, "Database Systems using Oracle:A simplified guide to SQL and PL/SQL 2nd ed", PHI

Database Management Systems Lab
Code: CSET 152
25 Marks [60% Practical, 30% Quizzes/Viva-voce, 10% Attendance]
Weekly Contact Hour: 2
Credit: 1
Laboratory works based on CSET 152