IT615 Database Management System DBMS (3-0-2-4)

Autumn Semester 2025-26
(MScIT Semester I Core Course)

Instructor

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Course Outline

This course teaches use of Relational Database Management System to understand and solve a wide range of information storage and query processing problems in organizations ranging from large corporations to personal applications. The course combines the practical aspects of DBMS use with basic theory discussions about database design. As part of the lab assignments, students will learn to build and query the database using DBMS tool for the given problem domain.

Text Books

Silberschatz, Korth & Sudarshan, ***Database System Concepts***, Seventh Edition, 2019, McGraw-Hill

Course Outcomes:

The students will learn to store the data and process queries using RDBMS data model. Database will be designed and implemented using relational technology.

P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
	X	X	X		X		X	X	X		X

Lecture Plan

Lectures	Topic
4	Course Overview: basic definitions, data storage, queries, transaction management, administration
6	Requirements collection and analysis, Data Models, E-R Model, Conceptual Design using E-R Model, E-R to Relational Mapping
6	Relational Model: introduction, integrity constraints, Logical Database Design
4	Query Language: SQL
8	Database Design & Tuning: FD, Normal Forms, Decomposition, Normalization, Schema Refinement
6	Transaction Management: ACID, Concurrency Control
6	Distributed and Parallel Databases: Data Storage and Query Processing

Evaluation Scheme

Labs and Assignments	30%
InSem Exam(s)	30%
End Semester Exam	40%

Course Policy

- *Attendance Policy of the institute is applicable.*
- *Student will be evaluated during each lab.*
- *Each Lab submission will be evaluated. Student has to complete all the lab assignments and evaluations in order to pass the course.*