Subject: Database II – CS526

Class & Semester: Year 3rd, 5th Semester			
Credits: 3 Credits **Category:** Core **Lab hours :** 2 hour-session in a week 90 minutes			
EVALUATION			
S. No	**Quizzes and exams**	**Mark distribution**	
1	Mid-term exam	20	
2	Assignments/ Homework/Class Attendance/Group Project	20	
3	Final exam	60	
Reference Book			
S. No	**Book Name**	**Author(s) Name**	**Publisher Name & Edition**
1	Database systems: a practical approach to design, implementation, and management.	Connolly, Thomas M., and Carolyn E. Begg	Pearson Education, 2015.
Recommended Books			
S. No	**Book Name**	**Author(s) Name**	**Publisher Name & Edition**
1	Microsoft® SQL Server 2008 R2	Ray Rankins, Paul Bertucci, Chris Gallelli, Alex T.	Silverstein, 2011

Course Description:

This course is the supplement course of Database-I. The course will introduce students to advanced database theories, query processing, transaction management, emerging trends and practices to develop relational databases.

Course Objectives:

The students are expected to learn the following objectives.

- Design and implement relational databases using advanced techniques
- Understand distributed database/replication servers
- Implement various techniques to protect data within a database
- Understand advanced theories/tools related to business intelligence

Homework and class activity details

Throughout the semester the students are expected to work on given assignments based on the given lectures. As a preparation towards the lecture, the students are expected to read the reading material ahead of time. Each student is expected to answer selected questions relevant to the topic. The students will also be asked to prepare and present a topic related to the group project that is most interesting to them and present their contribution in the assignments.

Detailed Course Outline:

Week	Contents
1	Enhanced ERD
2	Relational Algebra
3	Query optimization
4	stored procedure
5	stored functions
6	Triggers
7	Transaction management:- Transaction support, concurrency controls, Database recovery
8	Mid Term Exam
9	Indexing
10	Database administration and security:- Data administration and database administration, Database security
11	Database administration and security:- Data administration and database administration, Database security – 2
12	Distributed DBMSs and replication servers:- Advantages and disadvantages of DDBMSs, Replication servers
13	Distributed DBMSs and replication servers:- Advantages and disadvantages of DDBMSs, Replication servers – 2
14	Business Intelligence:- Data warehousing concepts, OLAP, Data mining
15	Business Intelligence:- Data warehousing concepts, OLAP, Data mining - 2
16	Final Term Exam