Lecture Plan

Subject: **Database Management Systems (CSC 16105) [L-T-P = 3-0-0]**
Class: **VI Semester B.Tech. & Dual Degree (Computer Science & Engineering)**

Sl. No.	Name of the Topics	Number of Lectures
1	**Introduction and Overview of a DBMS** (Purpose of Database Systems, View of Data, Data Models, DDL, DML, Transaction Management, Storage Management, Database Administrator, Database Users, Overall System Structure)	4
2.	**Entity-Relationship Model** (Basic Concepts, Design Issues, Mapping Constraints, Keys, ER-Diagram, Weak Entity Sets, Extended ER-Diagram, Reduction of ER-Schema to Tables)	4
3.	**Relational Model Concepts** (Structure of Relational Databases, Relational Algebra, Tuple Relational Calculus, Domain Relational Calculus, Extended Relational-Algebra Operations, Modification of the Database, Views)	6
4.	**Structured Query Language**	4
5.	**Integrity Constraints** (Domain Constraints, Referential Integrity, Assertions, Triggers, Functional Dependencies)	6
6.	**Relational Database Design** (Decomposition, Normalization)	6
7.	**Transactions and Concurrency Control** (Transaction Concepts, Transaction State, Concurrent Executions, Serializability, Recoverability, Lock-Based Protocols, Timestamp-Based Protocols, Deadlock Handling)	4
8.	**Recovery System** (Failure Classification, Log Based Recovery, Shadow Paging, Recovery with Concurrent Transaction)	2
	TOTAL	**36**