PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

LESSON PLAN

Semester: 5th Sem
Subject Name: Database Management Systems
Subject Code: PC-CS-301A

Sr. No.	Lecture No.	Topics to Be Covered
1	L 1	Concept and overview of DBMS, Data Models
2	L 2	Database languages, database administrators and users
3	L 3	Three schema architecture of DBMS
4	L 4	ER-Basic concepts, design issues
5	L 5	Constraints, Keys, Entity-Relationship Diagram
6	L 6	Weak Entity Sets, Extended E-R features
7	L 7	Structure of relational Databases
8	L 8	Relational Algebra
9	L 9	Relational Calculus
10	L 10	Introduction to Views, updates on views
11	L 11	Concept of DDL, DML, DCL
12	L 12	Set operations
13	L 13	Aggregate Functions, Null Values
14	L 14	Domain Constraints, RIC
15	L 15	Assertions, Views
16	L 16	Nested sub queries
17	L 17	Database security application development using SQL, Stored procedures and triggers
18	L 18	Functional Dependency
19	L 19	Different anomalies in designing a Database., Normalization using functional dependencies, Decomposition
20	L 20	Boyce-Codd Normal Form, 3NF, Normalization using multi-valued dependencies, 4NF, 5NF

21	L 21	RDBMS: Physical data structures
22	L 22	Query optimization: join algorithm, statistics and cost base optimization.
23	L 23	Transaction processing
24	L 24	Concurrency control and Recovery Management : transaction model properties, state serializability
25	L 25	lock base protocols, two phase locking.
26	L 26	Failure Recovery : Undo/Redo Logging, Protecting against Media Failures
27	L 27	Concurrency Control: Serial and Serializable Schedules-Conflict Serializability
28	L 28	Enforcing Serializability by Locks-Locking Systems with Several Lock Modes
29	L 29	Concurrency Control by Timestamps
30	L 30	Validation
31	L 31	Transaction Management: Serializability
32	L 32	Recoverability-View
33	L 33	Serializability-Resolving Deadlocks
34	L 34	Distributed Databases: Commit and Lock
35	L 35	Content Beyond Syllabus- Triggers
36	L 36	Introduction to DWDM