

Satyug Darshan Institute of Engineering and Technology
Lesson Plan/Teaching Plan/Lecture Plan with Progress` :B Tech -5th
Semester :2025-2026

Course Name(Code) :-Database Management System(PCC-CS-501) Faculty Name: Shikha Arora					
Topics/Lecture are arranged in sequence -same-as to be taught in the class. Maintain data related to "Date" in its hard copy					
S.No.	Lect No.	Topics Description	Teaching Pedagogy	Reference Material	Remarks ,if any
1	1	Introduction to database concepts,File system vs dbms approach	White Board	T1	
2	2	Architecture of Dbms(2 tier and 3 tier)	White Board	T1	
3	3	3 schema architecture of dbms	White Board	T1	
4	4	Data abstarction,Data independence	White Board	T1	
5	5	Schema and instance ,Relational model	White Board	T1	
6	6	Keys	White Board	T1	
7	7	ER Model Concepts	White Board	T1	
8	8	ER Model Digram Practice	White Board	T1	
9	9	Network model,Hierarchial Model	White Board	T1	
10	10	Integrity Constraints	White Board	T1	
11	11	DDL,DML Commands	White Board	T1	
12	12	Introdcution to Relational model and operations	White Board	T1	
13	13	Operation of Relational Model	White Board	T1	
14	14	Relational Calculus(TRC)	White Board	T1	
15	15	Domain relational Calculus	White Board		
16	16	SQL3, DDL and DML constructs,	White Board	T1	
17	17	Open source and Commercial DBMS -- MYSQL, ORACLE	White Board	T1	
18	18	DB2, SQL server.	White Board	T1	
19	19	Relational database design: Domain and data dependency,	White Board	T1	
20	20	Armstrong's axiom	White Board	T1	
21	21	Normal Forms(1nf,2nf)	White Board	T1	
22	22	Normal Forms(3nf,bcnf)	White Board	T1	
23	23	Normal Forms(4nf,5nf)	White Board	T1	
24	24	Dependency preservation	White Board	T1	

S.No.	Lect No.	Topics Description	Teaching Pedagogy	Reference Material	Remarks ,if any
25	25	Lossless design	White Board	T1	
26	26	Query processing	White Board+PPT	T1	
27	27	Query optimization algorithms.	PPT	T1	
28	28	Query equivalence rules.	White Board		
29	29	Revision			
30	30	Storage strategies: Indices	White	T1	
31	31	B-trees	White Board	T1	
32	32	Hashing	White Board	T1	
33	33	Concurrency control, ACID	White	T1	
34	34	Concurrency Problems	PPT	T1	
35	35	Concurrency Control schemes- locking technique(Shared- exclusive,)	White Board	T1	
36	36	Basic 2Pl,Strict 2Pl,Rigorous 2pl	White Board	T1	
37	37	Time Stamp ordering	White Board	T1	
38	38	Multi-version concurrency control scheme	White Board	T1	
39	39	Database recovery techniques.	White Board		
40	40	Database security,AAA.	White Board	T1	
41	41	DAC, MAC and RBAC ,ABAC models	White Board	T1	
42	42	Intrusion detection, SQL injection.	White Board	T1	
43	43	Class Test/Revision		T1	
44	44	Object oriented and object relational databases	White Board	T1	
45	45	Logical Databases	White Board	T1	
46	46	Web databases, Distributed databases	White Board	T1	
47	47	Data warehousing and data mining	White Board	T1	
48	48	Revision			

Study Material/Books,Web-resources/Online Courses Links etc.

S.No.	Description
1	T1. Fundamentals of Database System, Elmasri and Navathe, Pearson Education Asia
2	T2. Database System concepts, Henry F. Korth, McGraw Hill