Lesson Plan & Work-done Diary for AY: 2025-26, EVEN Semester

Course with Code: DATABASE MANAGEMENT SYSTEM-BCS403				Faculty: Dr. Shwetha G K			Semester & Section: IV	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
1.	23-2-2026	Bridge Course: Basic Concepts of DBMS	Chalk and Talk with PPT	1.				
2.	25-2-2026			2.				
3.	26-2-2026			3.				
MODULE-1								
4.	27-2-2026	**Introduction**		4.				
5.	2-3-2026	**Introduction to Databases**: Characteristics of database approach,		5.				
6.	4-3-2026	Advantages of using the DBMS approach, History of database applications.	Chalk and Talk with PPT	6.				
7.	5-3-2026	**Overview of Database Languages and Architectures**: Data Models, Schemas, and Instances. Three schema architecture		7.				
8.	6-3-2026	Data independence, database languages, and interfaces, The Database System environment		8.				

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9.	9-3-2026	**Conceptual Data Modelling using Entities and Relationships:** Entity types, Entity sets and structural constraints, Weak entity types		9.				
10.	11-3-2026	ER diagrams, Specialization and Generalization		10.				
11.	12-3-2026	Revision and discussion		11.				

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MODULE-2								
1.	13-3-2026	**Relational Model:** Relational Model Concepts, Relational Model Constraints	Chalk and Talk with PPT	1.				
2.	16-3-2026	Relational database schemas		2.				
3.	18-3-2026	Update operations, transactions, and dealing with constraint violations		3.				
4.	20-3-2026	**Relational Algebra:** Unary and Binary operations		4.				
5.	23-3-2026	Relational operations		5.				
6.	25-3-2026	Additional relational operations (aggregate, grouping, etc.)		6.				
7.	26-3-2026	Examples of Queries in relational algebra		7.				
8.	6-4-2026	**Mapping Conceptual Design into a Logical Design:** Relational Database Design using ER-to-Relational mapping		8.				
9.	8-4-2026	Revision and Discussion		9.				

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MODULE-3									
1.	9-4-2026	**Normalization: Database Design Theory** –Introduction to Normalization using Functional and Multivalued Dependencies	Chalk and Talk with PPT	1.					
2.	13-4-2026	Informal design guidelines for relation schema, Functional Dependencies		2.					
3.	15-4-2026	Normal Forms based on Primary Keys, Second and Third Normal Forms, Boyce-Codd Normal Form		3.					
4.	16-4-2026	Multivalued Dependency and Fourth Normal Form, Join Dependencies and Fifth Normal Form		4.					
5.	17-4-2026	**SQL:**SQL data definition and data types, Schema change statements in SQL		5.					
6.	22-4-2026	Specifying constraints in SQL, retrieval queries in SQL, INSERT, DELETE		6.					
7.	23-4-2026	UPDATE statements in SQL, Additional features of SQL		7.					
8.	24-4-2026	Additional features of SQL, Revision		8.					
9.	27-4-2026	Revision and Discussion		9.					

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MODULE-4									
1.	29-4-2026	**SQL: Advanced Queries**: More complex SQL retrieval queries	Chalk and Talk with PPT	1.					
2.	30-4-2026	Specifying constraints as assertions and action triggers		2.					
3.	13-5-2026	Views in SQL		3.					
4.	14-5-2026	**Transaction Processing**: Introduction to Transaction Processing, Transaction		4.					
5.	15-5-2026	System concepts, Desirable properties of Transactions		5.					
6.	18-5-2026	Characterizing schedules based on recoverability		6.					
7.	20-5-2026	Characterizing schedules based on Serializability		7.					
8.	21-5-2026	Transaction support in SQL		8.					

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MODULE-5									
1.	22-5-2026	**Concurrency Control in Databases:** Two-phase locking techniques for Concurrency control, Concurrency control based on Timestamp ordering	Chalk and Talk with PPT	1.					
2.	25-5-2026	Multi version Concurrency control techniques, Validation Concurrency control techniques		2.					
3.	27-5-2026	Granularity of Data items and Multiple Granularity Locking		3.					
4.	29-5-2026	**NOSQL Databases and Big Data Storage Systems:** Introduction to NOSQL Systems, The CAP Theorem		4.					
5.	1-6-2026	Document-Based NOSQL Systems and MongoDB		5.					
6.	3-6-2026	NOSQL Key-Value Stores, Column-Based or Wide Column NOSQL Systems		6.					
7.	4-6-2026	NOSQL Graph Databases and Neo4j		7.					
8.	5-6-2026	Revision		8.					

	Activity	Planned	Actual	Remarks
1	Theory Classes	45		
2	Mini Project	1		
3	Tutorials/ Extra classes	-		
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)	50%		

Planning	Execution
Faculty Signature:	**Faculty Signature:**
HoD Signature:	**HoD Signature:**