

# CL219 – Database Systems Lab

## OUTLINE

Course Code	CL219	
Course title	Database Systems Lab	
Credit hours	1	
Prerequisite	CS201 Data structures	
<b>Topics covered in the lab, with number of lab sessions on each topic</b>	<b>Duration</b>	<b>Topics</b>
	1(3hrs)	Introduction to different Database Management Systems, MySQL Basics
	2(3hrs)	My SQL <ul style="list-style-type: none"> <li>• ERD</li> <li>• Create command(Database, tables)</li> <li>• Primary key Foreign key</li> <li>• Alter table(ADD, MODIFY and drop column)</li> <li>• Drop commands</li> </ul>
	3(3hrs)	Data Manipulation Language <ul style="list-style-type: none"> <li>• Insert,update,delete</li> </ul> Select basic <ul style="list-style-type: none"> <li>• Arithmetic operation ,Comparison operator, Conditional restriction , Logical operator</li> </ul> ORDER BY Clauses <ul style="list-style-type: none"> <li>• ORDER by Clauses</li> </ul>
	4(3hrs)	Aggregation, GROUP BY, Having Joins <ul style="list-style-type: none"> <li>• Cross</li> <li>• Natural</li> <li>• Outer</li> </ul>
	5(3hrs)	Subqueries (Inline, Correlated)

	6(3hrs)	Views SQL Functions <ul style="list-style-type: none"> <li>• Numeric</li> <li>• String Manipulation</li> <li>• Date and Time</li> </ul>
	7(3hrs)	PHP <ul style="list-style-type: none"> <li>• Basic,syntax</li> <li>• Interfacing PHP with MySQL</li> <li>• Registration form using (GET/POST)</li> </ul>
	8(3hrs)	Indexes and SQL Injection
	9(3hrs)	Data Control Language (DCL) <ul style="list-style-type: none"> <li>• Grant, Revoke</li> </ul> Transaction Control Language (TCL) <ul style="list-style-type: none"> <li>• Commit,Rollback</li> </ul>
	10(3hrs)	Stored Procedures
	11(3hrs)	Triggers
	12(3hrs)	MongoDB (introduction, installation and configuration)
	13(3hrs)	MongoDB CRUD Operations
	14(3hrs)	MongoDB Query Modifiers and Indexing
	15(3hrs)	Create User and Add Roles in MongoDB