INSTITUTE	**FACULTY OF COMPUTER APPLICATIONS**
PROGRAM	**BACHELOR OF COMPUTER APPLICATIONS**
SEMESTER	**2**
COURSE TITLE	**INTRODUCTION TO DBMS**
COURSE CODE	**05BC3204**
COURSE CREDITS	**4**

Objective:

1 To understand various fundamental aspects of database management system
2 To depict a database system using ER diagram.
3 To understand the uses the database schema and need for normalization.
4 To implement and execute SQL Queries.
5 Query representation using Relational Algebra.

Course Outcomes: After completion of this course, student will be able to:

1 To understand various fundamental aspects of database management system.
2 To depict a database system using ER diagram.
3 To understand the uses the database schema and need for normalization.
4 To implement and execute SQL Queries.
5 Query representation using Relational Algebra.

Pre-requisite of course: Basics and elementary knowledge of working with the computer.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	0	4	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	**Overview to Database Management System** Introduction to Database Management systems,, Introduction to Database Management systems, Database- applications, purpose, instance and schema, Data Models, Data Models, Database System Architecture., Database System Architecture., REVISION	10
2	**Database Design and Normalization** he Entity Relationship Model: The Basic ER concepts, Entities and Attributes, Entities and Attributes, Relationships, constraints, -R Diagram symbols, , Examples of ERD, Introduction to Normalization,, First Normal Form, , Second Normal Form, Third Normal Form, REVISION	12

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Contents : Unit	Topics	Contact Hours
3	**Interactive SQL :** SQL commands, Data Definition Language Commands, Data Manipulation Language Commands, insertion of data into the tables, Viewing of data into the tables, Deletion operations,, updating the contents of the table,, modifying the structure of the table, Renaming table, destroying tables,, Data Constraints, Type of Data Constraint, , Column Level Constraint, Table Level Constraint	10
4	**Viewing The Data :** Computations on Table Data, Arithmetic Operators, Logical Operators, Comparison Operators, , Range Searching, Pattern Searching, , ORACLE FUNCTIONS, Number Functions,, Group Functions, Scalar Functions, Data Conversion Functions, Manipulating Dates in SQl , Character Functions, Sub queries and Joins : Joins, Equi Joins, Non Equi Joins, Self Joins, Outer Joins, Sub Queries, Correlated Queries,, Using Set Operators:- Union , Intersect, Minus.	10
5	**Relational Algebra** Native Relational Operations , Native Relational Operations : Selection, Projection, Join, Differenece, Relational Algebra Examples., REVISION	6
Total Hours		**48**

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	**Practical List:** Create Table, Viewing and Modifying the structure of tables, Insertion of data into tables and viewing data from tables., Delete and Update Operations, Rename and Destroy Table, Data constraints , Defining integrity constraint in the alter table command, Grouping data from tables., Arithmetic operators, logical operators., Range Searching and Pattern Matching., Column Alias, Aggregate functions and Scalar functions, Date Conversion functions, Manipulating dates in SQL, Subqueries., Types of Joins, Set Operators : Union, Intersect and Minus Clause.	28
Total Hours		**28**

Textbook :

1 Database System Concepts, Silberschatz, Korth, Sudarshan, McGraw Hill Publication., -

2 Fundamentals of Database Systems, Elmsari, Navath, earson Education , 2008

3 SQL/PLSQL, The Programming Language of ORACLE, Ivan Bayross, BPB, -

4 Database Systems Concepts, Design & Applications, S. K. Singh, Pearson, -

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References:

1 Database Systems : Design, Implementation and Management, Database Systems : Design, Implementation and Management, Peter Rob, Carlos Coronel, Cengage Learning , 2007

2 An Introduction to Database Systems, An Introduction to Database Systems, C J Date, A Kannan, S Swaminathan, Pearson Education, 8TH

3 Database Management Systems, Database Management Systems, Ramakrishnan, Gehrke, McGraw Hill,, -, 3RD

4 Database management Systems, Database management Systems, Leon and Leon, Vikas Publication, -

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation

Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
20.00	30.00	25.00	15.00	10.00	

Instructional Method:

1 PRESENTATION

2 DEMO

3 BOARD WORK

Supplementary Resources:

1 https://kakeboksen.td.org.uit.no/Database%20System%20Concepts%206th%20edit ion.pdf

2 https://www.tutorialspoint.com/sql/

3 https://play.google.com/store/apps/details?id=in.ajaykhatri.learndbms&hl=en_IN

4 https://play.google.com/store/apps/details?id=com.quizmine.androiddbms&hl=en

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