



Course Syllabus  
Gyanmanjari Institute of Management Studies  
Semester-2 (BBA)

**Subject:** Relational Database Management System-BBAFT12305

**Type of course:** Major (Core)

**Prerequisite:**

Basic knowledge of Computer Programming. Any student who has studied and passed 12th Standard Examination in Science or General stream with English as one of the subjects from any recognized Board can join BBA Program.

**Rationale:**

Database is an integral part of real life application system. The course will enable student understand the different issues involved in the design and implementation of a database system. Student will learn the physical and logical database designs, database modeling, relational, hierarchical, and network models. Student will learn to use data manipulation language to query, update, and manage a database. Student will understand essential DBMS concepts such as: database security, integrity, concurrency, storage strategies etc. The students will get the hands on practice of using SQL and PL/SQL concepts.

**Teaching and Examination Scheme:**

Teaching Scheme			Credits	Examination Marks					Total Marks
CI	T	P		C	SEE		CCE		
			Theory		Practical	MSE	LWA	ALA	
3	0	2	4	75	25	30	20	50	200

*Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; SEE - Semester End Evaluation; MSE- Mid Semester Examination; LWA-Lab Work Assessment – Viva voce; CCE-Continuous and Comprehensive Evaluation; ALA- Active Learning Activities.*

3 Credits \* 25 Marks = 75 Marks (each credit carries 25 Marks) Theory  
 1 Credits \* 25 Marks = 25 Marks (each credit carries 25 Marks) Practical  
 SEE 100 Marks will be converted in to 50 Marks  
 CCE 100 Marks will be converted in to 50 Marks  
 It is compulsory to pass in each individual component.

Relational Database Management System-BBAFT12305





**Course Content:**

Sr. No	Course content	Hrs	% Weightage
1	<p><b>Introduction to DBMS, RDBMS</b></p> <ul style="list-style-type: none"> <li>• What are DBMS and RDBMS?</li> <li>• Components of RDBMS,</li> <li>• Advantages of Relational database</li> <li>• Uses of RDBMS</li> <li>• How RDBMS works?</li> <li>• Dr.E.F.Codd’s Rules for RDBMS</li> <li>• DBMS V/S RDBMS.</li> </ul>	10	20
2	<p><b>Introduction to SQL and Integrity constraints</b></p> <ul style="list-style-type: none"> <li>• Introduction</li> <li>• basic data types,</li> <li>• Creating table,</li> <li>• Describing table,</li> <li>• Inserting data into table,</li> <li>• Select command-viewing data of table</li> <li>• Eliminating Duplication,</li> <li>• Sorting data of a table using order by,</li> <li>• Grouping data of a table using Group by and Having,</li> <li>• Copying table and data into another table,</li> <li>• Inserting data into a table from Another table,</li> <li>• deleting records from a table,</li> <li>• updating contents of a table,</li> <li>• rename, drop and truncate table,</li> <li>• Altering table schema.</li> <li>• Transaction Control: Commit, Save point, Rollback</li> <li>• DCL commands: Grant, Revoke</li> <li>• Constraint,</li> <li>• Domain Integrity constraints: Not null, Check</li> <li>• Entity Integrity constraints: Unique, Primary key</li> <li>• Referential Integrity constraints: Foreign key, referenced key, on delete cascade</li> <li>• Naming Constraint,</li> <li>• Altering table Schema: Add Constraint, Drop Constraint</li> </ul>	20	30
3	<p><b>SQL Operators and Functions:</b></p> <ul style="list-style-type: none"> <li>• Introduction,</li> <li>• The DUAL table and SYS+DATE,</li> <li>• Employee sample database,</li> <li>• SQL operators(Arithmetic,Relational,Logical,Range searching operators, set Searching operators, Character operators),</li> </ul>	20	30





	<ul style="list-style-type: none"> <li>• SQL Functions:</li> <li>• Aggregate Function(MAX,MIN,SUM,AVG,COUNT(*),COUNT</li> <li>• Scalar Functions:</li> <li>• SQL Numeric functions(abs,sqrt,power,mod,ceil,round),</li> <li>• SQL character functions (length,lower,upper,initcap,substr,lpad,rpad,ltrim,rtrim,replace,ascii),</li> <li>• SQL date Functions(Add-months,Months_between,Last_Day,Next_Day),</li> <li>• SQL set operations(Union,Intersect,Minus)</li> <li>• Perform different types of sub queries</li> </ul>		
4	<p><b>Database Objects and PL/SQL</b></p> <ul style="list-style-type: none"> <li>• Views : Create, Alter, Drop views</li> <li>• Synonym : Create synonym</li> <li>• Sequences: Create ,alter and drop Sequence</li> <li>• Index : Unique and composite</li> <li>• Introduction of PL/SQL</li> <li>• Disadvantage of SQL</li> <li>• Advantages of PL/SQL,</li> <li>• PL/SQL Block Structure,</li> <li>• Control Structure: Conditional, Iterative, Sequential</li> <li>• Cursor: Static(Implicit &amp; Explicit),Dynamic</li> <li>• Procedures &amp; Functions.</li> </ul>	10	20

**Continuous Assessment:**

Sr. No	Active Learning Activities	Marks
1	<b>Create SQL Schema and practice Queries:</b> Instruct students to make practice file for SQL queries and upload it on GMIU web portal.	10
2	<b>Company Visit:</b> Individual or Group visit in Company which works on database and write a report on it and upload it on GMIU web portal.	10
3	<b>Assignments:</b> Faculty will provide a Some topic and students write in their book with solutions and upload it on GMIU web portal.	10
4	<b>Prepare a Presentation on given topic:</b> Student will prepare presentation on Any topic and upload it on GMIU web portal.	10
5	<b>Attendance</b>	10
Total		50





Sr. No	Practical's	Unit no	Hours
1	Implement SQL Queries to perform various DDL Commands(create minimum 5 tables)	2	2
2	a)Implement SQL queries to perform Various DML Commands.(insert minimum 10 rows using different insert methods, edit, remove data using update and delete commands. b) Retrieve data using SELECT commands and various SQL operators.	2	2
3	Implement SQL queries using Group by, Having and order by clause.	2	2
4	Implement SQL queries to Copying table data into another table, Inserting data into a table from Another table, deleting records from a table, updating contents of a table, rename, drop and truncate table, altering table schema.	2	2
5	Implement practical -1 again with Domain integrity constraint, Entity Integrity Constraint , referential integrity constraint and Altering table Schema: Add Constraint, Drop Constraint	2	2
6	Implement SQL queries using different operators like arithmetic, relational, logical, Range searching operators.	3	2
7	Implement SQL queries using Aggregate functions(Group functions) like MAX,MIN,SUM,AVG,COUNT(*),COUNT,etc.	3	2
8	Implement SQL queries using Numeric Functions like abs,sqrt,power,mod,ceil,round etc and character functions like length,lower,upper,initcap,substr,lpad,rpad,ltrim,rtrim,replace,ascii etc	3	2
9	Implement SQL queries using date functions like add-months, months between,round,nextday etc.	3	2
10	Implement SQL queries using Set operators like Union, Union all, Intersect, Minus etc.	3	2
11	Retrieve data from multiple tables using Sub queries (Write minimum 3 level sub queries).	3	2
12	Perform Queries to Create, Update and Drop view.	4	2
13	Perform Queries to Synonyms, Sequence and Index	4	2
14	Implement PL/SQL Programs using Control Structure.	4	2
15	Implement PL/SQL programs using Cursor	4	2
	Total		30



**Suggested Specification table with Marks (Theory):75**

Distribution of Theory Marks (Revised Bloom’s Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	20%	30%	30%	10%	10%	-

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom’s Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

**Course Outcome:**

After learning the course the students should be able to:	
CO1	Understand the concepts of DBMS and RDBMS, their components, and difference.
CO2	Gain knowledge and skills of SQL and integrity constraints form a solid foundation for working with relational databases.
CO3	Apply SQL operators and functions which are essential for anyone working with relational databases.
CO4	Implement different database objects and a PL/SQL database.

**Instructional Method:**

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos,e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.



**Reference Books:**

- [1] Relational Database Management System : Bharat V Chawda, Atul Prakashan
- [2] Database Management Systems: A.A.Puntambekar, Technical Publications
- [3] Peter Rob, Carlos Coronel, “Database Systems : Design, Implementation and Management”, Cengage Learning
- [4] C J Date, A Kannan, S Swaminathan, “An Introduction to Database Systems”, Pearson Education, 8th Edition
- [5] Steve Suehring, Tim Converse, Joyce Park, PHP 6 and MySQL Bible, Wiley 6. Andrea Tarr, PHP and MySQL 24-Hour Trainer, Wiley
- [6] Advanced database management system: Bharat V Chawda, Atul Prakashan

