



MCA (Master of Computer Applications)
MCA (Master of Computer Applications) Semester I

Course Code	PS01CMCA53	Title of the Course	DATABASE MANAGEMENT SYSTEMS
Total Credits of the Course	4	Hours per Week	4

Course Objectives:	<ol style="list-style-type: none">1. To understand the basic concepts of Database and its components.2. To learn data types & usage of database functions.3. To understand the concept of Normalization and De-Normalization.4. To learn Database programming concepts.
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Course Content		
Unit	Description	Weightage* (%)
1.	Introduction <ul style="list-style-type: none">- Database Management System (DBMS) Concepts- Relational Database Model- Codd rules- The Entity-Relationship (ER) Model- Concepts of Data Independence, Data Sharing, Data Integrity,- Data Protection, System Catalog- Users associated with database systems and their roles- Normalization and De-Normalization	25
2.	Structured Query Language (SQL) <ul style="list-style-type: none">- Introduction to SQL- SQL sublanguages – DDL, DML, DCL- Basic data types- SQL statements: Create, Select, Insert, Delete, Update etc.- Database constraints- Built-in functions	25
3.	SQL and PL/SQL <ul style="list-style-type: none">- Sub queries- Joins and its types- Set operations- Database objects: View, Index, Sequence, Synonym etc.- PL/SQL – introduction and its features- PL/SQL block structure- Control structures	25





4.	Advanced PL/SQL <ul style="list-style-type: none">- Exception handling- Cursors- Stored procedures and stored functions- Database triggers- Packages	25
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Teaching-Learning Methodology	Blended learning approach incorporating traditional classroom teaching as well as online / ICT-based teaching practices
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	explain the concepts of database as well as database normalization.
2.	perform database operations.
3.	demonstrate professional expertise in SQL & PL/SQL Programming.

Suggested References:	
Sr. No.	References
1.	Ivan Bayross, SQL, PL/SQL The Programming Language of Oracle, BPB Publications.
2.	Oracle Press, Oracle 9i: A Beginner's Guide, TMH – Edition.
3.	Elmasri & Navathe: Fundamentals of Database Systems, 7th Edition, Pearson Education, 2016.





4.	Desai, Bipin C. : An Introduction to Database Systems, Galgotia Publication Pvt. Ltd., 2005.
5.	Groff and Weinberg : The complete reference SQL, 3rd Edition, Tata McGraw Hill, 2010
6.	Feuerstein and Pribyl. : Oracle PL/SQL Programming, 5th Edition, O'Reilly, 2009.
7.	Date C. J. :An Introduction to Database Systems, 8th Edition, Pearson Education, 2004.
8.	Silberschatz, Korth, Sudarshan : Database System Concepts, 6th Edition, McGraw Hill International, 2010.
9.	Dillon, Beck and Kyte : Beginning Oracle Programming, Apress, 2004.

