

Course Type	Course Code	Name of Course	L	T	P	Credit
DC	NMCC507	Advanced DBMS	3	1	0	4

Course Objective
• To provide knowledge of advanced DBMS.
Learning Outcomes
• They will able design data bases used for Data Analytics.

Unit No.	Topics to be Covered	Contact Hours	Learning Outcome
1	Object oriented model: Nested relations, modelling nested relations as object model, extension of SQL, object definition and query language (ODL, OQL), object relational database model, storage and access methods. Active databases, Advanced trigger structures, SQL extensions.	9L+3T	At the end of this unit, students will be able to write complex data queries in SQL on relational database models, set triggers, and learn about data storage and access methods.
2	Security and Integrity: Discretionary and mandatory access control; Facilities in SQL, access control models for RDBMS and OODBMS. Distributed Database: Basic Structure, fragmentation algorithms, tradeoffs for replication, query processing, recovery and concurrency control; Multidatabase systems; Design of Web Databases.	9L+3T	At the end of this unit, students will be able to write their first web application based on a distributed database.
3	Data Mining and Warehousing: Association Rule algorithms, algorithms for sequential patterns; Clustering and classification in data mining; Basic structure of a data warehouse; Extension of ER Model, materialistic view creation.	9L+3T	At the end of this unit, students will be able to store and access data from various database storage systems and mine and analyze databases for making business decisions.
4	On line analytical processing and data cube. Deductive databases, recursive query construction, logical database design and data log.	7L+3T	At the end of this unit, students will be able to design deductive and logical databases and write recursive queries.
5	One or more of the following topics: (i) Temporal database, (ii) Multimedia database, (iii) Text retrieval and mining, (iv) Web mining, and (v) Any topic of current interest.	7L+2T	At the end of this unit, students will be well-versed with the topics that are selected for teaching.
Total		42L+14T	

Text Books:

1. Database System Concepts, Korth, Silberschatz and Sudarshan, McGraw Hill

Reference Books:

1. Database: Principles, Programming, Performance, P. O'Neil, Morgan Koffman
2. Principles of Database and Knowledge-Base Systems, J.D. Ullman, Computer Science