## Data Base Management System I Code: MCA204 **CREDITS: 4**

Introduction to DBMS, architecture, administration roles, data dictionary, Traditional models, three-level architecture, hierarchical model, network model and relational model.

Relational model – definitions and properties, keys integrity rules, relational algebra, joins, set operations, Tuple relational calculus and Domain relational calculus.

SQL constructs, PL/SQL,Query & its optimisation techniques.

Singled valued functional dependencies.

Database design, conceptual, logical and physical models, ER diagram and model, normal forms (1,2,3,BCNF).

Storage structure- Sequential, Indexed Sequential.

B+ tree – creation, insertion & deletion.

Indexing- Primary, Secondary, Multi Level.