

**MTCE 703 A  
ADVANCED DBMS**

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**Credits: 4**

**Introduction:** Architecture Advantages, Disadvantages, Data models, relational algebra, SQL Normal forms.

**Query Processing:** General strategies for query processing, transformations, expected size, statistics in estimation, query improvement, view processing, query processor.

**Recovery:** Reliability, transactions, recovery in centralized DBMS, reflecting updates, buffer management, logging schemes, disaster recovery.

**Concurrency:** Introduction, serializability, concurrency control, locking schemes, and timestamp based order, optimistic scheduling, multiversion techniques, and deadlocks.

**Object Oriented Data Base Development:** Introduction, Object Definition language, creating object instances, Object query language.

**Distributed Databases:** Basic concepts, options for distributing a database, distributed DBMS.

**Data warehousing:** Introduction Basic concepts, data warehouse architecture, data characteristics, reconciled data layer data transformations, derived data layer user interface.

**Object Relational Databases:** Basic concepts, enhanced SQL, advantages of object relational approach.

**References:**

1. An Introduction to database systems by Bipin C. Desai, Galgotia Publications.
2. Modern Database Management by Feffray A. Iioffer, Mary B. Prescott, Fred R. McFadden, 6<sup>th</sup> edition. Pearson Education.
3. Principles of distributed database systems, by M. Tamer & Valduricz, 2<sup>nd</sup> edition, LPE Pearson Edition.
4. Database system concepts by Korth.