

**Academic Session: 2016-2017**Course Name: **B.Tech. VIII<sup>th</sup> Semester**Subject: **Advanced DBMS**Paper Code: **ETCS-423**No of hours allotted to complete the syllabus: **36 Hours**No of hours allotted per week: **3 Hours**

| <b>Topic Details</b>   | <b>No of Hours</b> |
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| <b>1<sup>st</sup> TERM</b>   |                    |
| <b>UNIT-I</b><br>Concept of advanced database techniques, Impact of emerging database standards, Study of DDBMS architecture, New developments in database technology  | 3                  |
| Introduction of PL/SQL, PL/SQL Database Objects , Procedures, Functions, Packages, Triggers, Programmatic SQL, Embedded SQL, Dynamic SQL, and ODBC Standard.   | 4                  |
| Parallel Database Architecture, Data base System Structure, Storage Manager, Query Processor.  | 2                  |
| <b>UNIT-II</b><br>Introduction to the Relational Model   | 1                  |
| Advanced SQL programming, Advanced Transaction Processing  | 2                  |
| Relational model conformity and Integrity, Data Replication, Security considerations   | 1                  |
| Relational Model of Data and RDBMS Implementation Techniques , Query optimization, Integrity Constraint Over relations   | 3                  |
| Querying relational data and relational Algebra.   | 2                  |
| <b>First Term Exam</b>   |                    |
| <b>2<sup>nd</sup> TERM</b>   |                    |
| <b>UNIT-III</b><br>Object Relational database concepts, Temporal database concepts, Mobile Databases, Object based databases Complex data types, structured types and inheritance in SQL, object identity and reference types in SQL | 5                  |
| Structure of XML, Document Schema, Querying and Transformation, API in XML, XML applications.  | 4                  |
| <b>UNIT-IV</b><br>Postgre SQL, Oracle, IBM DB2 Universal Database, SQL standards, SQL1999, SQL: 2003   | 3                  |
| Standards for interoperability and integration,  | 3                  |
| XML related specifications, X-Query, X-Path, Web Services, SOAP  | 3                  |
| <b>Second Class Test</b>   |                    |

**Text Books/ Reference Books:**

- [T1] Data base System Concepts, Silberschatz, Korth, McGraw hill, V edition.
- [T2] Elmasri, Navathe, Fundamentals of Database Systems, 5<sup>th</sup> Edition, Pearson Education, India.

**Reference Books:**

- [R1] Raghu Ramakrishnan, Johannes Gehrke, Database Management Systems, McGraw- Hill
- [R2] Fundamentals of Database Systems, Elmasri Navrate Pearson Education
- [R3] S.R. Prabhu, "Object-Oriented Database Systems: Approaches and Architectures", Prentice-Hall of India, Pvt. Ltd., Second edition, 2005.
- [R4] SQL/ PL/SQL, The programming language of Oracle, Ivan Bayross, 4<sup>th</sup> Edition BPB Publications.
- [R5] Rajesh Narang, "Object Oriented Interfaces and Databases", Prentice-Hall of India, Pvt. Ltd., 2004.