BAPATLA ENGINEERING COLLEGE

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T-L 1

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COURSE PLAN

1.	**Department**	I.T
2.	**Program**	B.Tech
3.	**Semester/Year**	V Semester/3rd Year
4.	**Course title /code**	Advanced Database Management Systems/20ITH52E
5.	**Prerequisite – Code and Title**	Database Management Systems (20IT403)
6.	**Number of hours tuition**	4 hours
7.	**Date of Preparation**	14/11/2022
8.	**Syllabus**	

<table>
<tr><td align="center">UNIT - I   (16 Periods)</td></tr>
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Algorithms for Query Processing and Optimization: Translating SQL queries into relational algebra-algorithms for external sorting-algorithms for select and join operations-algorithms for project and set operations-implementing aggregate operations and outer joins-combining operations using pipelining-using heuristics in query optimization. Catalogs for Relational DBMSs

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<tr><td align="center">UNIT - II   (16 Periods)</td></tr>
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Distributed DBMS Concepts and Design: Introduction-function and architecture of a Distributed DBMS-Distributed Relational Database Design-Transparencies in a Distributed DBMS-Date's Twelve Rules for Distributed DBMS.

Distributed DBMS Advanced Concepts: Distributed Transaction Management, Distributed Concurrency Control, Distributed Deadlock Management.

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<tr><td align="center">UNIT - III   (16 Periods)</td></tr>
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Introduction to Object DBMSs: Advanced Database Applications-Weaknesses of RDBMSs-Object oriented Concepts-Storing objects in a Relational Database.

Introduction to Object-Oriented Data Models and OODBMSs-OODBMS Perseptives-Advantages and Disadvantages of OODBMSs

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<tr><td align="center">UNIT-IV   (16 Periods)</td></tr>
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No SQL Database concepts: Definition of No SQL, Characteristics of No SQL, No SQL storage types-Document Databases, Key-value databases , Column Oriented databases, Graph databases.

9. Resources

TextBooks	1. Fundamentals of Database Systems, Elmasri Navate, 7th edition, Pearson Education,2017. 2. Getting Started with NoSQL, Gaurav Vaish, Packt Publishing, ISBN 978-1-84969988 2013.
Reference Books	1. Database Systems: A practical approach to design, implementation and management, ThomasM Connoll and Carolyn E.Begg 6th Edition, Pearson Publications, 2019. 2. Professional No SQl, Shashank Tiwari, Wiley Publications, 2011, ISBN: 978-0-470-94224-6