

Semester	3
Paper Code	B2CS230312T / B2CS230312P
Course	MINOR
Paper Title	DATABASE MANAGEMENT SYSTEM
No. of Credits	4
Theory / Practical / Composite	COMPOSITE
Minimum No. of preparatory hours per week a student has to devote	5
Number of Modules	One
Syllabus	<p>1. Fundamental concepts of DBMS; Purpose of Database Systems; Data Abstraction: Physical, Conceptual and External Levels; Data Models; Database Languages; Database Users; Database Manager; Database Administrator; DBMS Structure.</p> <p>2. Entity Relationship Model: Entity Sets; Relationship Sets; Mapping Constraints; Keys; E R Diagrams; Strong and Weak Entity Sets; Extended ER Features: Specialization/Generalization, Aggregation.</p> <p>3. Relational Model: Structure of Relational Databases; Database Schema; Query Languages: Relational Algebra: Fundamental Operations, Additional Operations; Structured Query Languages</p> <p>4. Database design: Constraints: Domain Constraints; Referential Integrity; Functional Dependencies, Normalization: 1NF, 2NF, 3NF and BCNF</p> <p>5. File Organization: Operations on files, Records: Fixed length, Variable Length, Sequential File Organization</p> <p>6. Introduction to Transaction Processing: ACID properties, concurrency control</p>
Learning Outcomes	<p>On completion of the course, the students will be able to:</p> <ol style="list-style-type: none"> 1. Understanding Fundamental Concepts of DBMS 2. Proficiency in Entity Relationship Modeling 3. Mastery of Relational Model and Query Languages 4. Competence in Database Design and Normalization 5. Understanding File Organization and Transaction Processing

Reading/Reference Lists	<ol style="list-style-type: none"> 1. R. Elmasri, S.B. Navathe, Fundamentals of Database Systems 6th Edition, Pearson Education, 2010. 2. A. Silberschatz, H.F. Korth, S. Sudarshan, Database System Concepts 6th Edition, McGraw Hill, 2010. 3. R. Ramakrishanan, J. Gehrke, Database Management Systems 3rd Edition, McGraw-Hill, 2002. 4. C. J. Date, An Introduction to Database Systems, 8th Edition, Pearson India 	
Evaluation	Theory CIA: 12 Attendance: 3 Semester Exam: 45	Practical CA: 38 Attendance: 2
Paper Structure	Answer 3 out of 5 of 15 marks each	