Semester	**ONE**
Paper Number	**4**
Paper Code	**MDTS 4114**
Paper Title	Data Base Management System and Data warehousing
No. of Credits	**6**
Course description	CORE Composite Paper One Module. Practical using SQL. No. of classes assigned Theory: 4 classes per week Practical: 3 classes per week
Course Objective	At the end of the course, the students are expected to have • The students will learn the fundamental concepts of database management system • They will learn how to design databases and how to improve the schemas. • The students will also learn about transaction processing, concurrency control and recovery techniques • They would also be familiarized with query processing and optimization techniques • Finally they will be introduced to data warehousing with a discussion on fundamental concepts.
Syllabus	Fundamental concepts of DBMS: Data Abstraction; Data Models (Entity Relationship Model, Relational Model) Database Languages; Structured Query Language. Database design: Constraints; Referential Integrity; Functional Dependencies; Normalization. File Organization; Indexing and Hashing. Transaction Management, Concurrency Control & Recovery: ACID properties; rollback; recoverable schedules; lock-based protocols; deadlock handling; failure; recovery techniques. Query processing and optimization. Data warehousing: Basic Concepts, OLTP, Data Warehouse Architecture; Schemas; Data Marts; DataWarehouse Design; On-line Analytical Processing (OLAP).
Practical	Practical based on the theory component.
Reading/Reference Lists	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. "Data Mining: Concepts and techniques", J Han and M Kamber, Third Edition, Elsivier. 4. C.J Date, An Introduction to Database systems; Pearson/Addison Wesley; 2003
Evaluation	Theory CIA: 10 End Sem Exam: 50 Total : 60	Practical Continuous Assessment: 30 End Sem Viva: 10 Total: 40

Paper Structure for End Semester Theory	Short questions: 5 marks each	Long questions: 10 marks each
	2 out of 4	4 out of 6