FACULTY OF COMPUTER SCIENCE

Master of Computer Application (Sem-IV)

In Effect from Academic Year 2017-18

Subject Code : 1CS2010403	Subject Title: ADVANCED DATA BASE MANAGEMENT SYSTEMS (ADBMS)
Pre-requisite :	Knowledge of DBMS, Knowledge of SQL & PL/SQL is desirable.

Course Objective:

The objectives of the course are to:

- Introduce the basics of Advanced Database Management.
- Understand the detailed accepting of how to maintain a database rapidly & exactly.

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
				Theory		Practical		
Lecture	Tutorial	Practical	Credit	University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	Total
3	0	-	3	60	40	-	-	100

Subject Contents			
Sr. No	**Topic**	**Total Hours**	**Weight (%)**
1	**Basics of Database Architecture and Managing Data Storage** Introduction to Database, Database System Environment – an Example, Data Models, Schema and Instances, Three Schema Architecture of Database, Component Modules of Database Systems, Database System Utilities, Memory Hierarchy and Storage Devices, Storage of Databases, Buffering of Blocks, Places File Record on Disk, Files of Unordered Records and Unordered Records	8	20
2	**Database Tuning and Database Security** Physical Database Design in Relational Database, Overview of Database Tuning and Relational Systems, Database Security and its Issues, Granting and Revoking Privileges, Role Based Access Control for Multilevel Security, Encryption and PKI	8	20
3	**Backup & Recovery in Database and Database Indexing** Providing Backup and Recovery, Recovery Concepts, Recovery Techniques Based on Deferred Update and Immediate Update, Recovery in Distributed Database, Distributed Database in Oracle, Types of Single Level Ordered Indexes, Primary Index, Cluster Index, Secondary Index, Multilevel Index	8	20
4	**Managing Different Databases and Distributed Databases** Overview of Temporal **Databases,** Distributed Database Concepts, Data Fragmentation, Allocation Techniques for Distributed Database Design, Types of Distributed Database Systems	8	20
5	**Emerging Database Technologies and Object-Relational Databases** Overview of Object Relational Features, Current Trends of Database Technology, Implementation and Relational Issues of Extended Type, Nested Relational Model, Mobile Databases, Multimedia Databases, Geographic Information Systems	8	20

Course Outcome:

At the end of this course, the student would be able

- To Learn database physical and logical storage structures.
- To Understand multiplexing database files
- To Manage of database transactions and security.
- To Understand Database recovery procedures.

List of references:

1. Ramesh Elmasari, Shamkant B. Navathe, “Fundamentals of Database Systems”, Pearson Education, 5th Edition
2. S. K. Singh, “Database Systems Concepts, Design & Applications”, Pearson education