

Keshav Mahavidyalaya

(University of Delhi)

The Department of Computer Science

Teaching Plan

Name of the Teacher: **Dr. Anjali Thukral**

Course: **B.Sc. (Prog.) Physical Science with Computer Science**

Session: **2021-22**, Semester: **II**

Paper: (Core) **Database Management System (UPC: 42341202)**

Learning Outcomes:

1. use database management system to manage data.
2. create entity relationship diagrams for modelling real-life situations and design the database schema.
3. use the concept of functional dependencies to remove data anomalies and arrive at normalized database design.
4. write queries using relational algebra and SQL.

Month	Topics Covered	References
April	Introduction to Database Management Systems: Characteristics of database approach, data models, DBMS architecture and data independence. Practical- use of DDL and DML commands, 1,2	[1]
May	Entity Relationship and Enhanced ER Modeling: Entity types, relationships, SQL: Schema Definition, constraints, and object modeling. Test -1 Practical- 3(1-10)	[1]
June	Relational Data Model and Relational Algebra: Basic concepts, relational constraints, relational algebra. Assignment - 1 Practical- 3(11-20)	[1]
July	Database design: Mapping of ER and EER diagram to relational algebra, functional dependencies, normal forms up to third normal form and Normalization. Test - 2 Practical- 3(21-31)	[1]

References:

- [1] Elmasri, R., & Navathe, S. (2017). Fundamentals of Database Systems. 7th edition. Pearson Education.