

TECNIA INSTITUTE OF ADVANCED STUDIES
 Grade 'A' Institute
Department of Information, Communication & Technology
Bachelor of Computer Applications (BCA)
 Scheme and Syllabus (w.e.f. Academic Session 2024-25)
 As per UGC Curriculum & Credit Framework for Undergraduate Programme (CCFUP)
 (Dec 2022): GGSIP University, Delhi

COURSE CODE BCA 102T

COURSE NAME: DATABASE MANAGEMENT SYSTEM (DBMS)

LEARNING OBJECTIVES:

The paper aims to introduce the concept of Back end, data storage in computers, design of a DBMS, Queries to construct database, store and retrieve data from the database. The objective of this course is to provide the learners expertise in the following:

1. Understanding of the requirement of database management System for storing data and its advantages over file management system.
2. Designing the database conceptually, physically and finally implementing the creation of database for any application.
3. Learning of queries in SQL for creating database and performing various operations for manipulating data in the database.
4. Knowledge of database utilities i.e. backup, recovery, transaction processing.

PREREQUISITE: Basic knowledge of data storage and file management system

COURSE OUTCOMES (COS):

After completion of this course, the learners will be able to: -

CO #	Detailed Statement of the CO
CO1	Understand the DBMS concepts with detailed architecture, characteristics. Describe different database languages and environment and learn various data models, along with the related terminologies
CO2	Explore Structure Query Language, a brief on NOSQL, Query By Example. Also understand the overview of SQL, and try to implement DDL, DML and DCL along with operators, use of joins, nested query, use of views and Indexes Discuss Integrity Constraints
CO3	Describe Relational Data Model, explain Codd's Rules, Relational Algebra, Set theory operations and the concept of functional dependencies and normalization
CO4	Acquire Knowledge about Transaction Processing, concurrency problems, and its controlling techniques, Database backup and recovery and security.

Course Outcomes	Program Outcomes (Scale – 1:Very Low,2: Low,3:Medium,4:High)									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	1	4	4	2	4	2	1	1	4
CO2	4	1	4	2	2	4	2	1	1	4
CO3	4	1	4	4	2	4	3	1	1	4
CO4	4	1	4	4	2	4	3	1	1	4