Lesson Plan

Program: BCA   **Semester:** 5th   **Course Code**: BCA-501
Course Name: DBMS

Course Objectives

CO1- To introduce the needs and uses of database management system.

CO2- To learn the techniques for designing and building database Information systems.

CO3- To describe file organization in RDBMS and different types of index & Views.

CO4- To study the data models for relative problems, Practice SQL programming through a verity of database problems.

CO5- To design entity relationship diagram into RDBMS and formulate SQL queries on the respect data.

CO6- To describe the normalization for the development of application and demonstrate the use of concurrency and transactions.

Session Duration: 60 minutes

Participants: BCA Fifth Semester Students

Entry level knowledge and skills of students
1)Computer Fundamentals

Equipment required in Classroom/ Laboratory/ Workshop
1)Projector
2)White Board/ Marker

Assessment Schemes

S. No.	Criteria	Marks (100)
1	CCSU End Term Examination	75
2	Internal Evaluation Scheme	25
2(a)	Teacher Assessment (Continuous Evaluation) (Assignment & attendance)	25
2(a)(i)	Assignment-1	10
2(a)(ii)	Assignment-2	10
2(a)(iii)	Attendance (compulsory)	5

Course Outcomes (starting with action-oriented observable and measurable verb)

(CO1)	Able to understand the needs and uses of database management system.	Understand K(2)
(CO2)	Able to understand and demonstrate the techniques for designing and building database Information systems.	Understanding K(2), Applying K(3)
(CO3)	Ability to explain file organization in RDBMS and demonstrate different types of index and Views.	Understanding K(2)
(CO4)	Ability to identify the data models for relative problems, Practice SQL programming through a verity of database problems.	Understanding K(2) Applying K(3)
(CO5)	Ability to design entity relationship and convert ER diagram into RDBMS and formulate SQL queries on the respect data	Understanding K(2)
(CO6)	To describe the normalization for the development of application software and demonstrate the use of concurrency and transactions.	Understanding K(2) Applying K(3)

L. No.	Topics	Sub Topics	Date of implementation	Pedagogy	CO-Covered	Faculty Sign	HoD's Remark with Date
Unit - 1							
1.	**Discuss Syllabus**	Course Objective & Outcome		Lecture	CO-1 TO CO-6		
2.	**Introduction**	Basic about DBMS		Lecture	CO1		
3.		Characteristics of database approach		Lecture	CO1		
4.		Data models		Lecture, Demonstration	CO1		
5.		DBMS architecture		Lecture, Demonstration	CO1		
6.		Data independence		Lecture	CO1		
7.		Revision Unit-1		Brainstorming, Buzz Grouping	CO-1		
8.		Discuss University Questions		Brainstorming, Buzz Grouping	CO-1		
Unit – 2							
9.	**E-R Modeling**	Entity types, Entity set		Lecture	CO-2		
10.		Attribute, keys, relationships		Lecture	CO-2		
11.		Relation types		Lecture	CO-2		
12.		Roles and structural constraints, weak entities,		Lecture, Demonstration	CO-2		
13.		Enhanced E-R and object modeling		Lecture	CO-2		
14.		Sub classes, Super classes		Lecture, Demonstration	CO-2		
15.		Specialization and generalization inheritance		Lecture	CO-2		
16.		Revision Unit-2		Brainstorming, Buzz Grouping	CO-2		
17.		Discuss University Questions		Brainstorming, Buzz Grouping	CO-2		
Unit – 3							

18.	**File Organization**	Indexed sequential access files		Lecture, Demonstration	CO-3		
19.		implementation using B & B++ trees		Lecture, Demonstration	CO-3		
20.		Hashing, hashing functions		Lecture, Demonstration	CO-3		
21.		collision resolution, extendible hashing		Lecture, Demonstration	CO-3		
22.		dynamic hashing approach implementation and performance		Lecture, Demonstration	CO-3		
23.		Revision Unit-3		Brainstorming, Buzz Grouping	CO-3		
24.		Discuss University Questions		Brainstorming, Buzz Grouping	CO-3		
			Unit – 4				
25.	**Relational Data Model**	Relational model concepts		Lecture	CO-4		
26.		Relational constraints, relational algebra		Lecture	CO-4		
27.	**SQL**	SQL queries, programming using SQL-1		Lecture, Demonstration	CO-4		
28.		SQL queries, programming using SQL-2		Lecture Demonstration	CO-4		
29.		SQL queries, programming using SQL-3		Lecture Demonstration	CO-4		
30.		Revision Unit-4		Brainstorming, Buzz Grouping	CO-4		
31.		Discuss University Questions		Brainstorming, Buzz Grouping	CO-4		
			Unit – 5				
32.	**EER and ER to relational mapping**	Data base design using EER to relational language.-1		Lecture, Demonstration	CO-5		
33.		Data base design using EER to		Lecture, Demonstration	CO-5		

		relational language.-2					
34.		Data base design using EER to relational language.-3		Lecture, Demonstration	CO-5		
35.		Revision Unit-5		Brainstorming, Buzz Grouping	CO-5		
36.		Discuss University Questions		Brainstorming, Buzz Grouping	CO-5		
Unit – 6							
37.	**Data Normalization**	Functional Dependencies		Lecture	CO-6		
38.		Normal form up to 3rd normal form		Lecture, Demonstration	CO-6		
39.	**Concurrency Control**	Transaction processing		Lecture	CO-6		
40.		Locking techniques and associated		Lecture	CO-6		
41.		database recovery		Lecture, Demonstration	CO-6		
42.		Security and authorization.		Lecture	CO-6		
43.		Recovery Techniques		Lecture	CO-6		
44.		Database Security		Lecture	CO-6		
45.		Revision Unit-6		Brainstorming, Buzz Grouping	CO-6		
46.		Discuss University Questions		Brainstorming, Buzz Grouping	CO-6		

Books Recommended for Reading and Reference:

1. Abraham Silberschatz, Henry Korth, S.Sudarshan,"Database Systems Concepts", 4Edition, McGraw Hill, 1997.
2. Jim Melton, Alan Simon, "Understanding the new SQL: A complete Guide", Morgan
3. A.K.Majumdar, P. Bhattacharya, "Database Management Systems", TMH, 1996.
4. Bipin Desai, "An Introduction to database systems", Galgotia Publications, 1991.