



SANATAN DHARMA COLLEGE, AMBALA CANTT

College with Potential for Excellence, UGC, New Delhi
NAAC Accredited Grade "A+" with CGPA 3.51 in 3rd cycle
ISO 9001:2015 & ISO 14001:2015 Certified



Department of Computer Science Lesson Plan (Session 2022-2023) Syllabus

BCA – 244 RELATIONAL DATABASE MANAGEMENT SYSTEM
Maximum Marks: 100 **External:80**

Minimum Pass Marks: 35 **Internal:20**

Time: 3 hours

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. A candidate will be required to answer five questions in all, selecting one question from each unit in addition to compulsory Question No. 1. All questions will carry equal marks.

UNIT – I

Relational Model Concepts, Codd's Rules for Relational Model, Relational Algebra:- Selection and Projection, Set Operation, Renaming, Join and Division, Relational Calculus: Tuple Relational Calculus and Domain Relational Calculus.

UNIT – II

Functional Dependencies and Normalization:-Purpose, Data Redundancy and Update Anomalies, Functional Dependencies:-Full Functional Dependencies and Transitive Functional Dependencies, Characteristics of Functional Dependencies, Decomposition and Normal Forms (1NF, 2NF, 3NF & BCNF).

UNIT – III

SQL: Data Definition and data types, SQL Operators, Specifying Constraints in SQL, Basic DDL, DML and DCL commands in SQL, Simple Queries, Nested Queries, Tables, Views, Indexes, Aggregate Functions, Clauses

UNIT – IV

PL/SQL architecture, PL/SQL and SQL*Plus, PL/SQL Basics, Advantages of PL/SQL, The Generic PL/SQL Block: PL/SQL Execution Environment, PL/SQL Character set and Data Types, Control Structure in PL/SQL, Cursors in PL/SQL, Triggers in PL/SQL, Programming using PL/SQL.

TEXT BOOKS:

1. Elmasri&Navathe, "Fundamentals of Database Systems", 5th edition, Pearson Education.
2. Ivan Bayross, "SQL, PL/SQL-The Programming Language of ORACLE", BPB Publications 3rd edition.

REFERENCE BOOKS:

1. C. J. Date, "An Introduction to Database Systems", 8th edition, Addison Wesley N. Delhi.
2. Oracle 8 –PL/SQL programming –Scott Urman
3. A Guide to the SQL Standard, Data, C. and Darwen, H.3rd Edition, Reading, MA:1994, Addison-Wesley Publications, New Delhi.

Semester-IV Course: BCA – 244 RELATIONAL DATABASE MANAGEMENT SYSTEM At the end of course student should be able to:	
CO-1	Describe Relational Model Concepts & Codd's Rules for Relational Model
CO-2	Describe and apply Relational Algebra
CO-3	Understand and apply Relational Calculus
CO-4	Understand and describe Functional Dependencies and Normalization
CO-5	Understand and perform SQL commands and operations
CO-6	Differentiate Basic DDL, DML and DCL commands in SQL
CO-7	Apply Simple Queries, Nested Queries,
CO-8	Understand and describe PL/SQL architecture
CO-9	Describe and use Tables, Views, Indexes, Aggregate Functions, Clauses
CO-10	Understand and describe The Generic PL/SQL Block: PL/SQL Execution Environment,
CO-11	Understand and describe PL/SQL Character set and Data Types,
CO-12	Demonstrate working of Control Structure in PL/SQL
CO-13	Demonstrate working of Cursors in PL/SQL,
CO-14	Design Triggers in PL/SQL
CO-15	Develop Basic programs using PL/SQL

S.No	Instructional Technique	Assessment Methods (AM)
1	Chalk & Talk	Assignments
2	ICT tools	Quiz
3	Group discussions	Group Discussions
4	Industrial visit	Oral Tests
5	Case studies	Sessional
6	Small Projects	Presentations
7	Workshop	Seminar
8	Spoken Tutorials	University Exams
9	Flipped Class	
10.	E-Resources	

Detailed Lesson Plan

Date	Topics to be Covered	Instructional Technique	Assessment Method
01.02.2023	Relational Model Concepts	1	1,2,3,4
05.02.2023	SUNDAY		
06.02.2023	Codd's Rules for Relational Model	1	1
07.02.2023	Selection and Projection	1	1,2,3,4
08.02.2023	Set Operation	2-(PPT/Projector)	1,2,3,4
12.02.2023	SUNDAY		
13.02.2023	Renaming	2-(PPT/Projector)	1,2,3,4
14.02.2023	Join	1	1,2,3,4
15.02.2023	Join	2-(PPT/Projector)	1,2,3,4
19.02.2023	SUNDAY		
20.02.2023	Division		
21.02.2023	Relational Calculus	2-(PPT/Projector)	1,2,3,4
22.02.2023	Tuple Relational Calculus	2-(PPT/Projector)	1,2,3,4
26.02.2023	SUNDAY		
27.02.2023	Domain Relational Calculus	1	1,2,3,4
28.02.2023	Functional Dependencies	2-(PPT/Projector)	1,2,3,4
01.03.2023	Normalization:-Purpose	9	1,2,3,4,6
05.03.2023	SUNDAY		
06.03.2023	HOLI VACATIONS		
07.03.2023			
08.03.2023			
09.03.2023			
10.03.2023			
11.03.2023			
12.03.2023	SUNDAY		
13.03.2023	Data Redundancy	1	1,2,3,4
14.03.2023	Update Anomalies	2-(PPT/Projector)	1,2,3,4
15.03.2023	Full Functional Dependencies	2-(PPT/Projector)	1,2,3,4
19.03.2023	SUNDAY		
20.03.2023	Transitive Functional Dependencies	2-(PPT/Projector)	1,2,3,4
21.03.2023	Characteristics of Functional Dependencies	6	1,2,3,4

22.03.2023	Decomposition		4
26.03.2023	SUNDAY		
27.03.2023	1NF	2-(PPT/Projector)	1,2,3,4
28.03.2023	2NF	1	1,2,3,4
29.03.2023	3NF	2-(PPT/Projector)	1,2,3,4
02.04.2023	SUNDAY		
03.04.2023	BCNF	2-(PPT/Projector)	1,2,3,4
04.04.2023	HOLIDAY		
05.04.2023	Data Definition	9,10	1,2,3,4
09.04.2023	SUNDAY		
10.04.2023	Assignment	1	1,2,3,4
11.04.2023	Sessional	1	1,2,3,4
12.04.2023	data types	1	1,2,3,4
16.04.2023	SUNDAY		
17.04.2023	SQL Operators	1	1,2,3,4
18.04.2023	Specifying Constraints in SQL	2-(PPT/Projector)	1,2,3,4
19.04.2023	Basic DDL	1	1,2,3,4
23.04.2023	SUNDAY		
24.04.2023	DML	2-(PPT/Projector)	1,2,3,4
25.04.2023	DCL commands in SQL	6	1,2,3,4
26.04.2023	SimpleQueries	2-(PPT/Projector)	1,2,3,4
30.04.2023	SUNDAY		
01.05.2023	Nested Queries	2-(PPT/Projector)	1,2,3,4
02.05.2023	Tables	2-(PPT/Projector)	1,2,3,4
03.05.2023	Views	1	1,2,3,4
07.05.2023	SUNDAY		
08.05.2023	Indexes	1	1,2,3,4
09.05.2023	Aggregate Functions, Clauses	1	1,2,3,4
10.05.2023	Doubts		4
14.05.2023	SUNDAY		
15.05.2023	PL/SQL architecture, PL/SQL and SQL*Plus, PL/SQL Basics, Advantages of PL/SQL, The Generic PL/SQL Block: PL/SQL Execution		4

Environment		
16.05.2023	PL/SQL Character set and Data Types, Control Structure in PL/SQL, Cursors in PL/SQL	4
17.05.2023	Triggers in PL/SQL, Programming using PL/SQL	4

	Teacher Incharge	Head of the Department
Name	Kamna Billus	Dr. Girdhar Gopal
Sign with Date		