JHARKHAND Rai University
UGC RECOGNISED UNIVERSITY
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Lesson Plan & Tracking

Programe : MCA	**Session :2022-2024**	**Year : First**	**Sem:First**
Course: Advanced Database Management System			
Name of the Faculty: SHASHANK SAWAN	**Commencement Date:19/09/2022**		**Date of Closure:30/12/2022**

Lecture No.	Week	Unit	Topics to be Covered	Blended Mode			Date	Duration	Tracking of Lectures	Related Course Outcome	Signature of Faculty	Signature of HoD	Remarks (if any)
				ICT Tool/Platform/ LMS	Resources	Activity							
1	1	1	Purpose of Database Systems, Data Models, Schemas and Instances										
2		1	Three-Schema Architecture and Data Independence,Database languages, Database Architecture										
3		1	Classification of DBMS, relational database, Database users and Administrators										
4	2	1	Advantages of DBMS. Entities and Entity Sets										
5		1	Relationships and Relationship Sets, Keys, Mapping, Constraints										
6		1	ER Diagram, Reducing ER Diagram to tables										
7	3	1	Generalization and Specialization, Aggregation										
8		2	Relational database Schemas, Relational Algebra										
9		2	Relational Calculus (Tuple Relational calculus and Domain Relational calculus)										
10		2	Update operations, Transactions										

11	4	2	Dealing with constraint violations										
12		2	Binary Relational operation: JOIN and DIVISION										
13	5	2	SQL										
14		2	More complex SQL Queries, Security & Integrity violations										
15		2	authorization and views, integrity constants										
16	6	2	encryption, Statistical databases										
17		3	Pitfalls in relational database design, Functional Dependencies										
18		3	Decomposition Using Functional Dependencies										
19	7	3	Normalization using functional Dependencies										
20		3	General Definition of First, Second, Third and Forth Normal Form. Boyce-Codd Normal Form(BCNF)										
21		3	Multivalued and join dependencies, DKNF										
22	8	4	Transaction Processing, Desirable Properties of Transactions										
23		4	Transaction State, Characterizing Schedules based on Recoverability and Serializability										
24		4	Lock-Based Protocols, Timestamp-Based Protocols										
25	9	4	Validation-Based Protocols, Multiple Granularity										
26		4	Deadlock Handling, Recovery and Atomicity, Log-Based Recovery										

27		5	Concepts and Types of Distributed databases, data fragmentation										
28	10	5	Replication and Allocation Techniques for Distributed Database Design, Query Processing in Distributed Databases										
29		5	Overview of Concurrency Control and Recovery in Distributed Databases										
30		5	An Overview of 3-Tier Client-Server Architecture										
			Revision										
			Revision										