

Bhoj Reddy Engineering College for Women: Hyderabad

Department of Information Technology

Lesson plan of faculty member for the academic year 2016–17

Class: II B Tech

Branch-Section: IT-A

Semester: II

Subject: Database Management Systems

Lectures per week: 4

Lecture Number	Topics to be covered	Date (s)
UNIT – I: Introduction		
1	Database System Applications	9 December 2016
2	Purpose of Database Systems, View of Data, Data Abstraction	10 December 2016
3	Instance and Schema, Data Models, Database Languages- DDL, DML	13 December 2016
4	Database Access from Application Programs, Transaction management.	14 December 2016
5	Data Storage and Querying, Database Architecture	16 December 2016
6	Database users and Administrators, History of Database Systems.	17 December 2016
7	Introduction to Database design, ER Diagrams, Beyond ER- Design	20 December 2016
8	Entities, Attributes and Entity Sets	21 December 2016
9	Relationships and Relationship sets, Additional features of E-R Model.	23 December 2016
10	Conceptual Design with E-R Model, Conceptual Design for large enterprises	24 December 2016
11	Relational Model, Integrity Constraints over the Relations.	27 December 2016
12	Enforcing Integrity Constraints. Querying relational data	28 December 2016
13	Logical database design, Views	30 December 2016
UNIT-II: Relational Algebra and Relational Calculus		
14	Relational Algebra-Selection & Projection, Set Operations, Renaming, Joins	31 December 2016
15	Division, Examples of Algebra Queries, Tuple Relational Calculus,	3 January 2017
16	Domain relational Calculus, Expressive power of Algebra and Calculus.	4 January 2017
17	Form of basic SQL Query, Examples of SQL Queries, Nested Queries	6 January 2017
18	Correlated nested queries, Set Comparison Operators, Aggregate Operators	7 January 2017
19	NULL Values, Comparison using NULL Values, Logical Connectives AND, OR and NOT.	10 January 2017
20	Outer Joins, Disallowing NULL Values, Complex Integrity Constraints in SQL Triggers and Active.	11 January 2017
UNIT-III: Introduction to Schema Refinement.		
21	Problems Caused by Redundancy, Decompositions, Problems Related to Decomposition.	13 January 2017
22	Functional Dependencies, Reasoning about FDs.	14 January 2017
23	Normal Forms-First, Second, Third Normal Forms	17 January 2017
24	BCNF, Properties of Decompositions-Loss Less Join Decomposition, Dependency Preserving Decomposition.	18 January 2017
25	Schema Refinement in Database Design, Multi Valued Dependencies	20 January 2017
26	Fourth Normal Form, Join Dependencies	21 January 2017
27	FIFTH Normal Form	24 January 2017
28	Inclusion Dependencies	25 January 2017
29	Revision for I Mid	27 January 2017
UNIT-IV: Transaction Management		
30	Transaction Concept, Transaction State	21 February 2017

31	Implementation of Atomicity and Durability	22 February 2017
32	Concurrent Executions-Serializability	25 February 2017
33	Recoverability ,Implementation of Isolation	28 February 2017
34	Testing for Serializability	1 March 2017
35	Concurrency Control-Lock based Protocols	3 March 2017
36	Timestamp based protocols	4 March 2017
37	Validation based protocols-Multiple granularity	7 March 2017
38	Recovery system-Failure Classification,	8 March 2017
39	Storage Structure-Recovery and Atomicity	10 March 2017
40	Log Based Recovery	11 March 2017
41	Recovery with Concurrent Transactions, Buffer Management	14 March 2017
42	Failure with loss of nonvolatile storage	15 March 2017
43	Advance Recovery systems-Remote Backup systems	17 March 2017
UNIT-V: Overview of Storage and Indexing		
44	Data on External Storage, File Organization and Indexing	18 March 2017
45	Clustered Indexes, Primary and Secondary Indexes	21 March 2017
46	Index Data Structures-Hash Based Indexing	22 March 2017
47	Tree based Indexing	24 March 2017
48	Comparison of File Organizations	25 March 2017
49	Tree Structured Indexing: Intuitions for Tree Indexes	28 March 2017
50	Indexed Sequential Access Methods(ISAM)	31 March 2017
51	B+ Tree: A Dynamic Index Structure	4 April 2017
52	Search, Insert, Delete	7 April 2017
53	Hash Based Indexing: Static Hashing	8 April 2017
54	Static hashing, Extendible Hashing	11 April 2017
55	Linear hashing, Extendable vs Linear hashing	12 April 2017

Text books:

1. Database management systems, Raghu Ramakrishnan, Johannes Gehrke, TMH 3rd Edition 2003
2. Database System Concepts, A Silbershcatz, H.F.Korth, S. Sudarshan, McGraw hill VI edition 2006.

Name and signature of the faculty: Mehveen Mehdi Khatoon ----

Name and signature of Head of the Department: Mr K Sandeep Kumar ----