

Lesson Plan

Name of Faculty : Er. Arushi Bansal, Assistant Professor of CSE
Discipline : Computer Science and Engineering
Semester : 4th (Even)
Subject : Database Management Systems
Work Load (Lecture) per week (in hours): 3 hours

Week	Theory		Topic Covered Date and Remarks		
	Lecture-Day	Topic (Including Assignment/Test)	Date	HOD	Director-Principal
1 st	1	Overview of database and DBMS			
	2	File System Vs DBMS			
	3	Characteristics of Database approach, User of Database			
2 nd	4	Advantages and Disadvantages of DBMS over file processing systems			
	5	Responsibility of Database Administrator			
	6	Database System Concept and Architecture, Data Models			
3 rd	7	Schemas and Instances , Database language			
	8	DBMS architecture, Three levels architecture of Database Systems			
	9	Various views of data and data Independence, ER Model, Entity Types, Attributes and Keys			
4 th	10	Relationships , Roles and Structural Constraints			
	11	ER Diagram and Examples			
	12	Reduction of E-R diagram into tables, Relational Model			
5 th	13	Relational Algebra & various operations			
	14	Relational and Tuple calculus			
	15	Relational and Tuple calculus			
6 th	16	Network, Hierarchical & Relational Model			
	17	Problems on Relational Algebra			
	18	Problems on Design of ER models			
7 th		1st Minor Test			
8 th	19	Introduction to Query Languages (SQL)			
	20	Data Definition and Constraints			
	21	Insertion in SQL, Deletion and Update in SQL			
9 th	22	Queries in SQL, Relational Database Design			
	23	Functional dependencies : Full, Partial, Transitive			
	24	Introduction to Normalisation (Decomposition and Integrity Constraints)			
10 th	25	First and second Normal forms			
	26	Third Normal forms and BCNF			
	27	Fourth Normal forms			
11 th	28	Introduction to Concurrency control techniques			
	29	ACID Properties of a transaction			
	30	Locking Techniques			
12 th	31	Time Stamp Ordering			
	32	Multi Version Techniques			
	33	Deadlock and Necessary Conditions			
13 th	34	Introduction to Recovery systems and Techniques			
	35	Recovery Techniques in Centralized DBMS			
	36	Recovery Techniques in Centralized DBMS			
14 th		2nd Minor Test			
15 th	37	DDBMS Design			
	38	Replication and Techniques			
	39	Replication Techniques			

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Work Load (Lecture/Practical) per week (in hours): Practical-02hours

Week	Theory/ Practical (Group-I/ II)		Topic Covered Date and Remarks		
	Practical Day	Topics/ Programs	Date	HOD	Director-Principal
1 st	1	Create a database			
2 nd	2	Alter the structure of an existing database			
3 rd	3	Add a record in database			
4 th	4	Delete a record from database			
5 th	5	Modify a record in database			
6 th	6	Generate queries			
7 th		Minor test 1 st			
8 th	7	Generate a report			
9 th	8	List all records in database in ascending order			
10 th	9	List all records in database in descending order			
11 th	10	Execute various set of operations such as union, subtraction			
12 th	11	Execute various set of operations such as intersection			
13 th	12	Execute of aggregate functions as sum, count,avg, max,min etc			
14 th		Minor test 2 nd			
15 th	13	Implement various outer join operations			