Lesson Plan

Faculty Name : Dr. Arushi Bansal
Subject : Database Management Systems (PC/CDS/43-T)
Semester : CSE (DS) 4th SEM
Work Load : 03 hrs. /week

Week	Theory		Topic Covered Date and Remarks		
	Lecture- Day	Topic (Including Assignment/Test)	Date	HOD	Director-Principal
1.	1.	Overview of File Systems and Database Systems			
	2.	Characteristics of the Data Base Approach			
	3.	Database users, Advantages and Disadvantages of a DBMS			
2.	4.	Responsibility of Database Administrator			
	5.	DBMS architecture and various views of Data			
	6.	Data Independence			
3.	7.	Database languages			
	8.	Data Models: Relational Database Model			
	9.	Hierarchical Data Model, Network Data Model			
4.	10.	Schemas and Instances			
	11.	E-R Model: Entity Types, Attributes & Keys			
	12.	Relationships			
5.	13.	Roles and Structural Constraints			
	14.	E-R Diagrams, Reduction of an E-R Diagram to Tables			
	15.	Overview of Relational Database			
6.	16.	Key Integrity Constraints			
	17.	Relational Algebra			
	18.	Relational Algebra			
7.	19.	Relational Calculus			
	20.	Relational Calculus			
	21.	SQL fundamentals, Basic Operators			
8.	22.	Missing information and NULL values			
	23.	Relational Database Design: Overview of normalization			
	24.	Database Anomalies			
9.	25.	Candidate and Super Key			
	26.	Functional Dependencies			
	27.	Integrity Constraints			
10.	28.	Decomposition			
	29.	Normal forms: First			
	30.	Second, Third Normal, Boyce Codd Normal Form			
11.	31.	Multi-valued Functional Dependenciesand			
	32.	Fourth Normal Form			
	33.	Join Dependencies and Fifth Normal Form			
12.	34.	Denormalization			
	35.	Concurrency Control Techniques			
	36.	Concurrency Control Techniques			
13.	37.	Overview of database Transactions			
	38.	Transaction states			
	39.	ACID properties of a Transaction			
14.	40.	Transaction Recovery			
	41.	Serializability			
	42.	Concurrency Control			
15.	43.	Locking Techniques			
	44.	Locking Techniques			
	45.	Time-stamp ordering			
16.	46.	Multi-version Techniques			
	47.	Deadlock			
	48.	Recovery Techniques in centralized DBMS			

Lesson Plan

Faculty Name : Dr. Arushi Bansal
Subject : Database Management Systems Lab (PC/CDS/43-P)
Semester : CSE (DS) 4th SEM
Work Load : 02 hrs. /week

Week	Practical		Topic Covered Date and Remarks		
	Practical Day	Topics/ Programs	Date	HOD	Director-Principal
1.	1.	Write a program to create a database with tables having different fields and data types.			
2.	2.	Write a program to implement delete, truncate and drop command in database.			
3.	3.	Write a program to update and alter the record and structure of database.			
4.	4.	Write a program to list all records in database in ascending and descending order.			
5.	5.	Write a program to execute numeric functions.			
6.	6.	Write a program to execute string functions.			
7.	7.	Write a program to generate sub queries.			
8.	8.	Write a program to implement various types of joins.			
9.	9.	Write a program to implement Group By, Having clause and Order by clause			
10.	10.	Write a program to Implementation of Rollback, Commit, Savepoint			