Name of the faculty : Mrs KRISHMA BHATIA

Discipline : Comp. Engg.

Semester : 4th

Subject : DATABASE MANAGEMENT SYSTEM

Lesson plan Duration : 15 week (From Jan 2020 to May 2020)

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| **Theory Practical** | | | | |
| **Week** | **Lecture Day** | **Topic**  **(Including Assignment and test)** | **Practical**  **Week (G1,G2)** | **Topic** |
| 1st | 1st | Database Systems; Database and its purpose | 1st | Exercises on creation and modification of structure of tables. |
| 2nd | Characteristics of the database approach, Advantages and disadvantages of database systems. |
| 3rd | Classification of DBMS Users; Actors on the scene, Database Administrators, Database Designers, End Users, System Analysts and Application Programmers |
| 2nd | 1st | Workers behind the scene (DBMS system designers and   implementers, tool developers, operator and maintenance   personnel | 2nd | Exercises on inserting and deleting values from tables. |
| 2nd | Assignment 1 |
| 3rd | Data models, schemas, instances, data base state |
| 3rd | 1st | DBMS Architecture; The External level, The conceptual level, The internal level, | 3rd | Exercises on querying the table (using select command). |
| 2nd | Mappings. Data Independence; Logical data Independence, Physical data Independence.. |
| 3rd | Database Languages and Interfaces; DBMS Language, DBMS Interfaces. |
| 4th | 1st | Classification of Database Management Systems- Centralized, Distributed, parallel and object based | 4th | Exercises on using various types of joins. |
| 2nd | Revision |
| 3rd | Test |
| 5th | 1st | Data Models Classification; File based or primitive models, traditional data models, semantic data models | 5th | Exercises on using functions provided by database package |
| 2nd | Entities and Attributes,Entity types and Entity sets, |
| 3rd | Key attribute and domain of attributes, Relationship among entities |
| 6th | 1st | Database design with E/R model. | 6th | Exercises on commands like Grant, Revoke, Commit and Rollback |
| 2nd | Assignment 2 |
| 3rd | Revision |
| 7th | 1st | Relational Model Concepts: Domain, Attributes, Tuples cardinlity,keys(Primary, Secondary, foreign, alternative keys) | 7th | Revision |
| 2nd | Relations. Relational constraints and relational database schemes; Domain constraints, Key constraints and constraints on Null |
| 3rd | Relational databases and relational database schemes, |
| 8th | 1st | Entity integrity, referential integrity and foreign key. | 8th | Design of database for any application. |
| 2nd | Comparison b/w E/R model and Relational model |
| 3rd | Revision & Test |
| 9th | 1st | Normalization  Trivial and non-trivial dependencies. | 9th | Revision |
| 2nd | Non-loss decomposition and functional dependencies, , |
| 3rd | First, Second and Third normal forms |
| 10th | 1st | Boyce/Codd normal form, denormalization | 10th | Revision |
| 2nd | Assignment 3 |
| 3rd | Revision & Test |
| 11th | 1st | Database Access and Security  Creating and using indexes, | 11th | Revision |
| 2nd | creating and using views. |
| 3rd | Database security, process controls |
| 12th | 1st | Database protection, grant and revoke | 12TH | Revision |
| 2nd | Revision & Test |
| 3rd | SQL\* DDL (Data Definition Languages): Creating Tables, Creating a table with data from another table, Inserting values into a table, |
| 13th | 1st | updating columns of a Table, Deleting Rows, Dropping a Table. DML (Data Manipulation Language) | 13TH | Revision |
| 2ND | Database Security and Privileges, Grant and Revoke Command, |
| 3rd | Maintaining Database Objects, Commit and Rollback, various types of select commands, |
| 14th | 1st | various types of joins, sub query, aggregate functions. Challenges of My SQL. . | 14TH | Revision |
| 2nd | Introduction to Big Data. Understanding Big Data with samples |
| 3rd | Assignment 4 |
| 15th | 1st | Revision | 15TH | Revision |
| 2nd | Revision |
| 3rd | Revision |