**Lesson Plan**

**Name of Faculty :** Mr. Hitesh Kumar

**Discipline :** Computer Engg.

**Semester :** IVth

**Subject :** DBMS

**Lesson Plan Duration :** 15 week (January 2020 to April 2020)

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| **Week** | **Theory** | **Practical** |
| **Lecture Day** | **Topic ( Including Assignment / Test )** | **Practical Day** | **Topic** |
| Ist | 1 | Introduction to Database and its purpose | 1st | Installation of MS-Access. |
| 2 | Introduction to Database Management system |
| 3 | Why Database and History of Database System |
| IInd | 4 | Characteristics of the database approach. Advantages and disadvantages of database systems | 2nd |  Creation of Tables and Insertion of Data in MS-Access. |
| 5 | Concept of files, record, data, information retrieval. |
| 6 | Introduction to Conventional File System. Comparison between Conventional System and Database System |
| IIIrd | 7 | Classification of DBMS Users. Actors on the scene, Database Administrators, Database Designers, End Users, SystemAnalysts and Application Programmers. | 3rd | Query in MS-Access |
| 8 | Workers behind the scene (DBMS system designers and implementers, tool developers, operator and maintenance personnel) |
| 9 | Database System Concepts, Data models |
| IVth | 10 | Physical Model, Object based Model, Record based Model | 4th | Alter and Dropping of Database in MS-Access |
| 11 | Network Model, Hierarchical Model |
| 12 | Schemas, sub schemas instances, data base state. Case Study of models and schemas. Assignment Ist Based on Case study of models ( Student database) |
| Vth | 13 | DBMS Architecture: Three Level of Architectures | 5th |  Test based on MS-Access |
| 14 | Data base Administrator and Administration, Database Management System – Advantage and Disadvantage |
| 15 |  Sessional Test Ist |
| VIth | 16 | Concept of centralized and Client /Server Architecture for DBMS: Single Tier, Two Tier and Three Tier | 6th | Installation of Oracle |
| 17 | Data Independence, Database Language |
| 18 | Classification of DBMS, DBMS Interfaces |
| VIIth | 19 | Classification of Database Management Systems: Centralized, Distributed, parallel and Object based.  | 7th | Creation of Tables in Oracle |
| 20 | Data Models Classification : File based or primitive models |
| 21 | Traditional data models, semantic data models. |
| VIIIth | 22 | Entities and Attributes, Entity types and Entity sets | 8th | Insertion of Data in Oracle and Deletion based on conditions. |
| 23 | Key attribute and domain of attributes, Relationship among entities |
| 24 | Database design with E/R model Assignment IInd Based on ER Diagram of the database |
| IXth | 25 | ER Design Issues | 9th | Updation of Data and Structure of Tables |
| 26 | Mapping Constraints |
| 27 | Sessional Test IInd |
| Xth | 28 | Relational Model Concepts: Domain Attributes, Tuples, Cardinality | 10th | Query of Database using Select command |
| 29 | Primary, Secondary and Alternative Keys & Relational Database Design |
| 30 | Different Types of Constraints |
| XIth | 31 | Normalization  | 11th | Use of Like , In and Between operators in Oracle |
| 32 | Database Access and Security |
| 33 | Structured Query Language and Its Components |
| XIIth | 34 | Data definition language : Create command and its use & Alter, Drop commands | 12th | Using Functions provided by Database Package |
| 35 | Data Manipulation Language Insert, Update |
| 36 | Data Manipulation Language (DML) |
| XIIIth | 37 | Select command with where clause using conditional expressions and Boolean operators, | 13th | Use of Scalar and Aggregate functions |
| 38 | group by clause |
| 39 | Different Types of Joins |
| XIVth | 40 | Like , Between and IN operator | 14th | Use of Group By Clause & Commands like Grant , Revoke, Commit, rollback etc.  |
| 41 | Aggregate and Scaler Functions |
| 42 | Date and Character Conversion functions & Introduction to Big Data |
| XVth | 43 | Assignment III Based on Database Design | 15th | Test based on Select command and its different forms. |
| 44 | Revision and Problems of Students |
| 45 | Sessional Test IIIrd |