

## Lesson Plan

**Discipline** : Computer Engg.  
**Semester** : 3rd  
**Subject** : DBMS  
**Lesson Plan Duration** : Aug 2024 to Dec 2024

| Week  | Theory      |   | Practical       |  |
|-------|-------------|---|-----------------|--|
|       | Lecture Day | Topic ( Including Assignment / Test )   | Practical Day   | Topic  |
| Ist   | 1           | Introduction to Database and its purpose  | 1 <sup>st</sup> | Installation of MYSQL  |
|       | 2           | Introduction to Database Management system  |                 |  |
|       | 3           | Why Database and History of Database System   |                 |  |
| IIInd | 4           | Characteristics of the database approach. Advantages and disadvantages of database systems  | 2 <sup>nd</sup> | Creation and modification of structure of Table using MY SQL |
|       | 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, System Analysts and Application Programmers. | 3 <sup>rd</sup> | Creation and modification of structure of Table using MY SQL |
|       | 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  | 4 <sup>th</sup> | Insertion and deletion queries in MYSQL                      |
|       | 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   | 5 <sup>th</sup> | Insertion and deletion queries in MYSQL                      |
|       | 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   | 6 <sup>th</sup> | Usage of Select command                                      |
|       | 17          | Data Independence, Database Language  |                 |  |
|       | 18          | Classification of DBMS, DBMS Interfaces   |                 |  |

|        |    |   |                  |  |
|--------|----|---|------------------|--|
| VIIth  | 19 | Classification of Database Management Systems: Centralized, Distributed, parallel and Object based. | 7 <sup>th</sup>  | Usage of Select command                        |
|        | 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   | 8 <sup>th</sup>  | Various types of joins                         |
|        | 23 | Key attribute and domain of attributes, Relationship among entities                                 |                  |  |
|        | 24 | Database design with E/R model<br>Assignment IInd Based on ER Diagram of the database               |                  |  |
| IXth   | 25 | ER Design Issues  | 9 <sup>th</sup>  | Various types of joins                         |
|        | 26 | Mapping Constraints   |                  |  |
|        | 27 | Sessional Test IInd   |                  |  |
| Xth    | 28 | Relational Model Concepts: Domain Attributes, Tuples, Cardinality                                   | 10 <sup>th</sup> | Various functions provided by database package |
|        | 29 | Primary, Secondary and Alternative Keys & Relational Database Design                                |                  |  |
|        | 30 | Different Types of Constraints  |                  |  |
| XIth   | 31 | Normalization   | 11 <sup>th</sup> | Various functions provided by database package |
|        | 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                        | 12 <sup>th</sup> | Grant, Revoke, Commit and Rollback command     |
|        | 35 | Data Manipulation Language Insert, Update   |                  |  |
|        | 36 | Data Manipulation Language (DML)  |                  |  |
| XIIIth | 37 | Select command with where clause using conditional expressions and Boolean operators,               | 13 <sup>th</sup> | Grant, Revoke, Commit and Rollback command     |
|        | 38 | group by clause   |                  |  |
|        | 39 | Different Types of Joins  |                  |  |
| XIVth  | 40 | Like , Between and IN operator  | 14 <sup>th</sup> | Design of database for various applications    |
|        | 41 | Aggregate and Scaler Functions  |                  |  |
|        | 42 | Date and Character Conversion functions & Introduction to Big Data                                  |                  |  |
| XVth   | 43 | Assignment III Based on Database Design   | 15 <sup>th</sup> | Design of database for various applications    |
|        | 44 | Revision and Problems of Students   |                  |  |
|        | 45 | Sessional Test IIIrd  |                  |  |