<table>
<thead>
<tr>
<th>Course Code</th>
<th>205</th>
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<tbody>
<tr>
<td>Course Title</td>
<td>Database Management System (DBMS)</td>
</tr>
<tr>
<td>Credit</td>
<td>4</td>
</tr>
<tr>
<td>Teaching per Week</td>
<td>4 Hrs</td>
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<tr>
<td>Minimum weeks per Semester</td>
<td>15 (Including Class work, examination, preparation etc.)</td>
</tr>
<tr>
<td>Review / Revision</td>
<td>June 2014</td>
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**Purpose of Course**
Organizations use large amounts of data. A Database Management System (DBMS) is a software tool that makes it possible to organize data in a database.

**Course Objective**
1. To make students understand the basic concepts of Database.
2. Create Databases and Manage Databases using Structured Query Language (SQL).
3. They become aware with Normalization and its importance in RDBMS.

**Pre-requisite**
Basic Operating Knowledge of Computer and Basic Knowledge of Programming.

**Course Out come**
After studying this, students will be able to understand what is DDL? What is DML? and what is DCL?. After Completion of the course student will be able to prepare a complete database for their application.

**Course Content**

**Unit 1. Introduction to Database Systems**
1.1. Drawbacks of Conventional File Processing System
1.2. Need of Database Management System
1.3. Organization of database (Physical, Conceptual, Logical)
1.4. Data Models
   1.4.1. Object based data models: E-R Model
   1.4.1.1. E-R Diagram
   1.4.1.2. Entities & entity sets
   1.4.1.3. Types of relationships
   1.4.2. Record based data models: Network, Hierarchical & Relational
1.4.3. Physical data models
1.5. Components of Data Base Management System
   1.5.1. Query Language: DDL, DML, TCL
   1.5.2. Database Users: DBA, Programmer, Other Users
1.6. Data independence: Logical & Physical
1.7. Functional Dependencies & Closure of Functional Dependencies
1.8. Keys: Super Key, Candidate Key, Primary Key, Alternate Key, Foreign Key
1.9. Constraints
   1.9.1. Domain Integrity
   1.9.2. Referential Integrity
   1.9.3. Entity Integrity

2. **Normalization**
   2.1. Need of Normalization (Consequences of Bad Design-Insert, Update & Delete Anomalies)
### 2.2. Normalization
- 2.2.1. First Normal Form
- 2.2.2. Second Normal Form
- 2.2.3. Third Normal Form
- 2.2.4. BCNF

### Unit 3. Microsoft Access
- 3.1. Working with databases & tables
- 3.2. Managing Constraints & Relationships
- 3.3. Using SQL Queries

### Reference Books
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<tbody>
<tr>
<td>2.</td>
<td>Introduction to Database Management System :- Bipin C. Desai :- Galgotia</td>
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<tr>
<td>3.</td>
<td>Principles of database systems :- Jeffery Ullman :- Galgotia Publication</td>
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<tr>
<td>4.</td>
<td>An introduction to Database Systems: – C.J. Date :- Addison Wesley</td>
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<tr>
<td>5.</td>
<td>Introduction to database Management :- Navin Prakash :- TM</td>
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<tr>
<td>8.</td>
<td>ABC of Microsoft Access:- Cowart Robert:-BPB Publication</td>
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### Teaching Methodology
- Class Work, Discussion, Self Study, Seminars and/or Assignments

### Evaluation Method
- 30% Internal assessment.
- 70% External assessment.