**Lesson Plan of the 3rd semester for session 2021-22**

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| **Name of the faculty:** | Ms. Anshita  |
| **Designation:** | Assistant Professor |
| **Discipline:** | Computer Science and Engg. |
| **Semester:** | 3rd |
| **Subject:** | **Database management system(**PCC-CSE-201G) |
| **Lesson Plan duration:** | 15 weeks  |
| **Work Load per week in hours:** | Lectures- 03 |

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| **Week** | **Lecture****day** |  **Topic**  |
| 1 | 1 | Database System architecture: Data abstraction |
| 2 | Data Independence, Data definition language |
| 3 | Data manipulation language |
| 2 | 4 | Data models: Entity-relationship model |
| 5 | Network model, Relational model and object oriented data models |
| 6 | Integrity constraints |
| 3 | 7 | Data manipulation operations |
| 8 | Relational Query languages |
| 9 | Relational algebra, Tuple and domain relational calculus |
| 4 | 10 | SQL3, DDL and DML constructs |
| 11 | Open source and Commercial DBMS |
| 12 | MYSQL, ORACLE, DB2,SQL server |
| 5 | 13 | Relational databse design:Domain and data independency |
| 14 | Armstrong’s axioms |
| 15 | Normal forms and its types |
| 6 | 16 | Dependency preservation |
| 17 | Lossy and lossless design |
| 18 | Query Processing And Optimization |
| 7 | 19 | Evaluation of relational algebra expressions |
| 20 | Query Equivalence , Join strategies,Query optimization algo’s |
| 21 | Storage Strategies: Indices, B- trees, Hashing |
| 8 | 22 | Transaction processing : Concurrency control, ACID properties |
| 23 | Serializabilty of scheduling |
| 24 |  Locking and timestamp based schedulers  |
| 9 | 25 | Multiversion and optimistic concurrency control schemes  |
| 26 | Database recovery  |
| 27 | Database security : Authentication  |
| 10 | 28 | authorization and access control  |
| 29 | DAC, MAC and RBAC models  |
| 30 | Intrusion detection, SQL injection  |
| 11 | 31 | Object oriented and object relational databases  |
| 32 | Logical databases, web databases  |
| 33 | Distributed databases  |
| 12 | 34 |  Data warehousing  |
| 35 | Data mining 1. |
| 36 | Revision of unit 1. |
| 13 | 37 | Test of unit 1 |
| 38 | Revision of unit 2. |
| 39 | Test of unit 2. |
| 14 | 40 | Revision of unit 3. |
| 41 | Test of unit 3. |
| 42 | Revision of unit 4. |
| 15 | 43 | Test of unit 4. |
| 44 | Revision of whole syllabus |
| 45 | Problem solving. |