**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. |