**SARDAR VALLBHBHAI PATEL INSTITUTE OF TECHNOLOGY**

**Dept: INFORMATION TECHNOLOGY (16)**

**Subject: DATABASE MANAGEMENT SYSTEMS**

**SUBJECT CODE: 2130703**

**B.E. 3rd Semester**

**SYIT**

Active Learning Assignments

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Group No.** | **Topic** | **Enrollment no** |
|  |  | |  | | --- | | Introduction and applications of DBMS, Purpose of data base, Data, Independence | |  |
|  |  | |  | | --- | | Database System architecture- levels, Mappings, Database, users and DBA | |  |
|  |  | Structure of relational databases, Domains, Relations, Relational algebra |  |
|  |  | Fundamental operators and syntax, relational algebra queries, tuple relational calculus |  |
|  |  | Extended E-R features – generalization, specialization, aggregation, reduction to E-R database schema |  |
|  |  | Functional Dependency – definition, trivial and non-trivial FD, closure of FD set, closure of attributes, irreducible set of FD, |  |
|  |  | Normalization – 1Nf, 2NF, 3NF, Decomposition using FD- dependency preservation, BCNF, Multi-valued dependency, 4NF, Join dependency and 5NF |  |
|  |  | Overview, measures of query cost, selection operation, sorting, join, evaluation of expressions |  |
|  |  | Transformation of relational expressions, estimating statistics of expression results, evaluation plans, materialized views |  |
|  |  | Solution to concurrency related problems, deadlock, , two-phase locking protocol, Isolation, Intent locking |  |
|  |  | Introduction, Discretionary access control |  |
|  |  | Basics of SQL, DDL,DML,DCL, structure – creation, alteration, defining constraints – Primary key, foreign key, unique, not null, check, IN operator, |  |
|  |  | Functions - aggregate functions, Built-in functions – numeric, date, string functions, set operations, sub-queries, correlated sub-queries |  |
|  |  | Use of group by, having, order by, join and its types, Exist, Any, All, view and its types. transaction control commands – Commit, Rollback, Save point |  |
|  |  | Cursors, Database Triggers |  |
|  |  | Stored Procedures, Stored Function |  |