**PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH**

**Teaching Plan Even Semester**

**Session (2018-19)**

*Class: M.Sc (IT) IInd Sem Name of the Teacher: Anu Chawla*

*Subject:* Advanced Database Programming & MySQL *Period : 2nd (Mon-Thur)*

*Paper : MS-60 Room No : 201 (IT Block)*

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 14 /01/2019 – 19/01/2019 | Database Management Systems: Definition, Characteristics, Advantages of Using DBMS Approach |
| Week 2 | 21/01/2019 –  25/01/2019 | Classification of DBMSs, Data Models, Database Schema and Instance, Three Schema Architecture, Data  Independence – Physical and Logical data Independence |
| Week 3 | 28/01/2019 –  2/02/2019 | Entity- relationship model : Entities, Relationships, Representation of entities, attributes, Representation of relationship set, Generalization, aggregation. |
| Week 4 | 4/02/2019 –  9/02/2019 | Normalization: Functional Dependency, Full Functional Dependency, Partial Depend  ency, Transitive Dependency, Normal Forms– 1NF, 2NF, 3NF, BCNF, Multi-valued Dependency. |
| Week 5 | 11/02/2019 –  16/02/2019 | Relational Algebra and Relational Calculus  : Relational Algebra: Operations- Union, Intersection, Difference, Cartesian product, Projection, Selection, Division and  relational algebra queries; |
| Week 6 | 18/02/2019 –  23/02/2019 | Relational Calculus: Tuple oriented and domain oriented relational calculus and its operations. |
| Week 7 | 25/02/2019 –  02/03/2019 | MySQL : Introduction; Why MySql; Tools provided with MySQL; MySQL Architectural Terminology;Databases:Creating, Selecting, Dropping and Altering Databases;  Tables: Creating, dropping Altering, Indexing Tables; Adding new rows, Retrieving Information, Deleting or Updating Existing rows; |
| Mid Semester Exam | | |
| Week 8 | 11/03/2019 –  16/03/2019 | Obtaining MySQL Metadata; Joins; Subqueries; Views; Multiple Tables Deletion and Updation; |
| Week 9 | 18 /03/2019 –  22/03/2019 | Foreign *Keys and Referential Integrity; MySQL DataTypes; Sequences.* |
| Week 10 | 25/03/2019 –  30/03/2019 | Transaction and Concurrency control  : Concept of transaction, ACID properties, Serializibility, States of  transaction |
| Week 11 | 1/04/2019 –  6/04/2019 | Concurrency control: Locking techniques, Time stamp based protocols, Granularity of data items, Deadlock. |
| Week 12 | 8/04/2019 –  12/04/2019 | Data Warehousing: Introduction; Features; Data modeling for Data Warehousing; Building Data  warehouse; Comparison between Data Warehouse and DBMS Metadata; Problems and issues in Data Warehouse. |
| Week 13 | 15/04/2019 –  20/04/2019 | Data Mining: Overview; Goals of Data Mining; Techniques: Association rules(Market Basket Algorithm, Apriori Algorithm); |
| Week 14 | 22/04/2019 –  27/04/2019 | Classification: Decision Tree, Induction Algorithm;  Applications of Data Mining |
| Week 15 | 29 /04/2019 –  3/05/2019 | Revision |