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

**Teaching Plan Even Semester**

**Session (2018-19)**

**Class: B.Sc 4th Sem Name of the Teacher: Mr Pardeep Kumar**

**Subject: DBMS and Data Structures Period : 2**

**Paper : CS07 & CS08 Room No : 103**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 14 /01/2019 – 19/01/2019 | A Historical perspective, File Systems vs. DBMS, Characteristics of the Data Base Approach, Abstraction and Data Integration, Database users, Advantages and Disadvantages of DBMS |
| Week 2 | 21/01/2019 –  25/01/2019 | Implication of Database approach; Data Independence. Relational Data Model: Relational model concepts, Integrity constraints over Relations The 12 Rules (Codd’s Rule) for an RDBMS. |
| Week 3 | 28/01/2019 –  2/02/2019 | An overview of Network and Hierarchical Data Models Entity Relationship model, Introduction to Complexity, Data Structure and Data Structure operations. Applications of Data Structure, **Arrays**: Introduction, Types of Array, Memory representation, Applications and operations. Binary and Linear Search |
| Week 4 | 4/02/2019 –  9/02/2019 | **Stacks**: Introduction, memory representation, Applications and operations. |
| Week 5 | 11/02/2019 –  16/02/2019 | **Queue**: Introduction, Types, Memory Representation and Applications.  Traversing, searching, inserting, deleting, operations on header linked list. |
| Week 6 | 18/02/2019 –  23/02/2019 | Doubly linked list, memory representation. **Sorting**: Bubble sort, Insertion sort. |
| Week 7 | 25/02/2019 –  02/03/2019 | Selection sort, Merge Sort, Quick sort. Client-Server Architecture, 3-tier Architecture of database, Distributed databases. |
| Mid Semester Exam | | |
| Week 8 | 11/03/2019 –  16/03/2019 | Normalization: First, second and third Normal Form, Boyce Codd Normal Form. |
| Week 9 | 18 /03/2019 –  22/03/2019 | Concurrency and Recovery |
| Week 10 | 25/03/2019 –  30/03/2019 | Relational Algebra and Calculus |
| Week 11 | 1/04/2019 –  6/04/2019 | Definition and Basic concepts, Representation in Contiguous Storage, Binary Tree, Binary Tree Traversal . |
| Week 12 | 8/04/2019 –  12/04/2019 | Insertion and deletion on BST . |
| Week 13 | 15/04/2019 –  20/04/2019 | Test on Normalization  Test on Relational Algebra and Calculus  Test on Trees DS  Test on Sorting |
| Week 14 | 22/04/2019 –  27/04/2019 | Introduction and Memory Representation of Graphs. Graph Traversal (DFS and BFS) |
| Week 15 | 29 /04/2019 –  3/05/2019 | \*\*\*\*\*\*\*\*\*\*\*\*\*\*Revision\*\*\*\*\*\*\*\*\*\*\*\*\*\* |