**Post Graduate Government College for Girls, Sector-42, Chandigarh**

**Teaching Plan for Bachelors (Third and Fifth Semester) and Post Graduate (Third Semester)**

**Session (2020-2021)**

**Class: BCA II (Sem III) Name of the Teacher: Dr. Anu Chawla**

**Subject: Data Structures Paper: BCA-16-305**

|  |  |  |
| --- | --- | --- |
| **S. No** | **Dates** | **Topics to be Covered** |
| Week 1 | 03/08/2020 – 08/08/2020 | Basic Concepts: Introduction to Complexity, Data Structure and Data Structure operations |
| Week 2 | 10/08/2020 – 14/08/2020 | Applications of Data Structure, Basic data Structures. |
| Week 3 | 17/08/2020 – 22/08/2020 | Arrays: Introduction, Types of Array, Memory representation, Applications |
| Week 4 | 24/08/2020 – 29/08/2020 | Arrays: operations. Searching: Binary and Linear Search; |
| Week 5 | 31/08/2020- 05/09/2020 | Stacks: Introduction, memory representation, Applications |
| Week 6 | 07/09/2020- 12/09/2020 | Stacks: operations, Recursion. |
| Week 7 | 14/09/2020- 19/09/2020 | Linked List: Operations:-traversing, searching, inserting, deleting |
| Week 8 | 21/09/2020- 26/09/2020 | Operations on doubly linked list |
| Week 9 | 28/09/2020- 03/10/2020 | Operations on circular linked list, memory representation |
| Week 10 | 05/10/2020- 10/10/2020 | Operations on header linked list Applications, polynomial manipulation |
| Week 11 | 12/10/2020- 16/10/2020 | Queue: Introduction, Types |
| Week 12 | 19/10/2020- 24/10/2020 | Queue: Memory Representation and Applications. |
| Week 13 | 27/10/2020- 30/10/2020 | Trees – Definition and Basic concepts, Representation in Contiguous Storage, Binary Tree, Binary Tree Traversal |
| Week 14 | 03/11/2020- 07/11/2020 | Searching, Insertion and deletion in Binary trees, Binary Search tree. |
| Week 15 | 09/11/2020- 12/11/2020 | Graphs: Introduction, Memory Representation, Graph Traversal (DFS and BFS) |
| Week 16 | 16/11/2020- 21/11/2020 | Sorting: Bubble sort, Insertion sort, Selection sort |
| Week 17 | 23/11/2020- 28/11/2020 | Sorting: Merge Sort, Quick sort. Comparison of various Searching and Sorting algorithms. |