**Name of the Teacher:Poonam Rani Class: B.Voc(Software Development) Sem-III**

**Paper: BVSD-32 Nomenclature : Data Structures**

**Lesson Plan**

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| **S No** | **Period** | **Topics to be Covered** | **Academic Activity to be Organized** |
|  | **17-31 July 2017** | Introduction to Data Structures: Elementary Data Organization, Data Structure Operations, Algorithm Complexity and Time-space Tradeoff, Classification of Data Structures. Arrays: Linear Arrays, Operations on Arrays | **Oral Presentation** |
|  | **01-31 Aug 2017** | Operations on Arrays, Multidimensional Arrays, Storage of Arrays, Matrices, Sparse Matrices. Sorting and Searching: Linear Search, Binary Search, Insertion Sort, Selection Sort, Bubble Sort, Merge Sort.  Stacks, Operations on Stack. Applications of Stacks: Recursion, Polish Notation, Quick Sort. | **Group Discussion**  **Oral Presentations** |
|  | **01-30 Sept 2017** | Queues, Linked and Array Representation of Stacks, Queues, and Dequeues , Priority Queues, Operations on Queues. Linked Lists: Representation of Linked List in Memory, Traversal, Searching, | **Black board presentation**  **Oral Presentation**  **Power point presentation by student** |
|  | **01-31 Oct 2017** | Insertion, Deletion, Sorted Linked List, Header List, Two–way List. Trees: Binary Trees, Representation of Binary Trees in Memory, Threaded Binary Trees, Balanced Tree, Different Tree Traversal Algorithms, Binary Search Tree: Searching, Insertion, and Deletion in a Binary Search Tree, Heap Sort, Radix Sort | **Topic discussion**  **Oral Presentation** |
|  | **01-13 Nov 2017** | Representation of Graphs and Applications: Adjacency Matrix, Path Matrix, Shortest Path Algorithm, Linked Representation of a Graph, Traversing a Graph ,  String Processing: Storing Strings, String Operations, Pattern Matching Algorithms. | **Revision**  **Oral test**  **Class test** |

**Topics of Assignments/ Class Tests to be given to the Students:**

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| **Assignment 1** | Q1. Stack & its Applications  Q2. Queue & its Application |
| **Assignment 2** | Q1. What do you mean by linked list? Why we prefer linked list over arrays? Explain diff. between linked list & arrays.  Q2. Explain types of linked list. |
| **Class Test** | Q 1.What do you Stacks & Operations on Stack? Explain push andp op operations using static implementation mean by of stack.  Q 2. Explain Applications of Stacks  Or  Q1. What do you mean by Queue & Operations on queue? Explain insert and delete operations using static implementation of stack.  Q2. Explain Applications of Stacks |