

VEER NARMAD SOUTH GUJARAT UNIVERSITY

B.C.A. Semester - III
Effective from year 2010-11

Paper – 303

Advance ‘C’ and Data Structure

1. Pointers
 - 2.1. Pointer and memory storage
 - 2.2. Operations on pointer
 - 2.3. Arrays of pointer
 - 2.4. Passing pointer to function
2. Primitive Data Structure
3. Non Primitive Data Structure
 - 3.1. Arrays
 - 3.2. Stacks
 - 3.2.1. Operation on Stack
 - 3.2.2. Its Application in recursion and polish expression etc
 - 3.3. Queues
 - 3.3.1. Types of Queues
 - 3.3.2. Operation on Queue
 - 3.3.3. Its Application
 - 3.4. Linked List
 - 3.4.1. Types of link list
 - 3.4.2. Operation on link list
 - 3.4.3. Its Application
4. Tree
 - 4.1. Concept and Defination
 - 4.2. Types of Binary Tree
 - 4.3. Operation on Binary Tree: Tree Traversal, Insertion and Deletion
 - 4.4. Link and Thread Storage Representation of Binary Tree
 - 4.5. Application of Tree (Manipulation and Arithmetic Operation)
 - 4.6. Search tree
 - i. Height Balance Tree: AVL Tree, 2-3 Tree
 - ii. Weight Balance Tree

5. Sorting & Searching Technique

5.1. Internal Sorting-Insertion, Selection, Quick, 2-way Merge, Bubble

5.2. Searching-Sequential, Binary

Reference Books:

- 1) An Introduction to Data Structure with Applications-Trembley-Mc Graw Hill
- 2) Algorithms-Data Structure Programs-Wirth, Niclaus-PHI
- 3) Fundamental of data Structure, Horwitz and Shani-Computer Science Press
- 4) The Art of computer Programming Vols 1-2 Runth D –Adission Wessley
- 5) Schaum's outline of Data Structure with C++ -John R.H TMH
- 6) The Computer Reference 'C' Forth Edition-Herbert Schidt-Tata Mc Graw Hill
- 7) Programming Language in 'C' GoFried MC Graw Hill
- 8) Data Structure and Programming Designin C-R Kruse, C.L.Tondo, B Leung-PHI
- 9) Data Structure using C & C++-Langsam Augenstein & Tenenbaum-PHI