

Govt. of Karnataka, Department of Technical Education

Diploma in Computer Science & Engineering

Third Semester

Subject: Data Structures lab

Contact Hrs / week: 6

Total hrs: 96

List of Programs

| PART - A | |
|-----------------|---|
| 1. | To illustrate the use of pointers in arithmetic operations |
| 2. | To illustrate the different parameter passing mechanisms: Call by value and Call by reference |
| 3. | To find the smallest element in an array of 10 elements using pointers |
| 4. | To count the number of characters in a given file. |
| 5. | To create a file that contains atleast 5 records which consists of Book No., Book Name, Author, Publisher, and price |
| 6. | Display the contents of the file created in program No. 5 in the following format Book No. Book Name Author Publisher Price |
| PART – B | |
| 7. | To illustrate Stack operations using pointers to array |
| 8. | To implement queue using pointers to array |
| 9. | To implement circular queue: insert, delete and display |
| 10. | To implement singly list : create, delete and display |
| 11. | To implement doubly linked list : create, delete and display |
| 12. | To implement binary tree traversal operations. |
| 13. | To sort using bubble sort. |
| 14. | To sort an array using selection sort. |
| 15. | To sort an array using insertion sort. |
| 16. | To search a given number using binary search |

Note: Execute programs in LINUX / Windows platform

References:

1. **Programming in ANSI C**, 4th/e, E.Balagurusamy, Tata Mcgraw Hill, ISBN: 9780070648227
2. **Introduction to Data Structures in C**, Ashok N Kamthane Third impression 2009, Pearson Education, ISBN : 9788131713921

Scheme of valuation

| | | |
|---|--|-------------|
| 1 | Record | 05 |
| 2 | Writing two programs one each from part A & part B | 20 X 2 = 40 |
| 3 | Entering one program from part B | 05 |
| 4 | Execution with result | 30 |
| 5 | Viva-voce | 20 |
| | Total Marks | 100 |