



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA**  
**KAKINADA – 533 003, Andhra Pradesh, India**  
**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

<b>I Year II Semester</b>		<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
		<b>0</b>	<b>0</b>	<b>3</b>	<b>1.5</b>
<b>DATA STRUCTURES THROUGH C LAB</b>					

**Any 10 of the following experiments are to be conducted**

**Course Objectives:**

- To develop skills to design and analyze simple linear and non linear data structures.
- To strengthen the ability to the students to identify and apply the suitable data structure for the given real world problem.
- To gain knowledge in practical applications of data structures.

**List of Experiments:**

1. Implement operations on Strings.
2. Implement basic operations on Stacks.
3. Implement basic operations on Queue.
4. Implement basic operations on Circular Queue.
5. Implement multi stack in a single array.
6. Implement List data structure using i) array ii) singly linked list.
7. Implement basic operations on doubly linked list.
8. Implement basic operations (insertion, deletion, search, find min and find max) on Binary Search trees.
9. Implementation of Heaps.
10. Implementation of Breadth First Search Techniques.
11. Implementation of Depth First Search Techniques.
12. Implementation of Prim's algorithm.
13. Implementation of Kruskal's Algorithm.
14. Implementation of Linear search.
15. Implementation of Fibanocci search.
16. Implementation of Merge sort.
17. Implementation of Quick sort.

**Course Outcomes:**

After the completion of the course the student should be able to:

- Be able to design and analyze the time and space efficiency of the data structure.
- Be capable to identify the appropriate data structure for given problem.
- Have practical knowledge on the applications of data structures.