Course Code: CSE210

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DATA STRUCTURES & ALGORITHMS LABORATORY

Course Objectives:

This course will help the learner to select appropriate data structure, design technique and algorithm for a given application.

LIST OF EXPERIMENTS

1. Create a Stack and perform the stack operations using arrays.
2. Towers of Hanoi using user defined stacks.
3. Create queue and perform the queue operation using arrays
4. Reading, writing, and addition of polynomials.
5. Line editors with line count, word count showing on the screen.
6. Trees with all operations- Binary search tree, AVL tree
7. All graph algorithms- BFS and DFS
8. Sorting Techniques-Insertion sort, Merge sort
9. Searching techniques - Binary search and Hash search
10. Saving / retrieving non-linear data structure in/from a file

COURSE LEARNING OUTCOMES

Upon successful completion of this course, the learner will be able to

- Demonstrate operations on linear data structures using arrays and linked list
- Employ linked implementation for non-linear data structures
- Select appropriate data structure to solve a given problem
- Demonstrate different sorting and searching algorithms
- Demonstrate files for non-linear data structure
- Develop programs using appropriate design technique for an application