

VIDYA JYOTHI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

II Year-I Sem

Data Structures and Python Programming Lab

Part-A

1. C Program to illustrate concepts of arrays, structures, unions and enumerated data types.
2. Program to convert infix to postfix notation.
3. Program to evaluate postfix notations.
4. Program to illustrate tree traversals
 - a) In order b) Pre order c) Post order.
5. Program to illustrate insertion, deletion and searching in Binary Search Tree.
6. Program to illustrate Insertion, deletion and Rotation on AVL Trees.
7. Program to illustrate Graph traversals
 - a) Breadth First Search
 - b) Depth First Search.
8. Program to implement hash table using linear and quadratic probing.

Part- B

Exercise 1

- a) Installation and Environment setup of python.
- b) Write a program to demonstrate the use of basic Data Types.
- c) Write a program to demonstrate the Operators and Expressions
- d) Write a program to demonstrate the Functions and parameter passing Techniques.

Exercise 2

- a) Write a Program to implement
 - i. Packages ii. Modules iii. Built-in Functions.
- b) Write a Program to implement
 - i. List ii. Tuple iii. Dictionaries.
- c) Programs on Strings, String Operations and Regular Expressions.

Exercise 3

- a) Write a Program to implement Class and Object
- b) Write a Program to implement Static and Instance methods, Abstract Classes and Interfaces.

Exercise 4

- a) Write a program to compute distance between two points taking input from the user (Pythagorean Theorem).

b) Write a program to convert a given decimal number to other base systems.

Exercise 5

a) Write a program to implement Inheritance.

b) Write a program to implement Polymorphism.

Exercise 6

a) Write a program to implement Files.

b) Write a program to implement Exception Handling.