

Department of Computer Science and Engineering
Course: Design and Analysis of Algorithms

Shift-I

Assignment-Set-1

Max.Marks: 10

Last date of submission: 10-Aug-2019

Q.1] Read the distance data from Google Map related to 10 Cities. Create a distance matrix/data frame.

Write a program in python to implement Prims Algorithm **[Roll no 1]**

Write a program in python to implement Kruskal Algorithm **[Roll no 3]**

Write a program in python to implement Reverse Delete Algorithm **[Roll no 4]**

Q.2] Read the distance data from Google Map related to all Capital Cities of states of India. Create Data Frame.

Write a program in python to implement Single Source Shortest Path Algorithm **[Roll no 10]**

Q.3] A data of marks of 1000 students appeared in JEE exams is to be generated using random number generator in python. The data values must be in between 10-90.

Write a program in python [recursive and iterative] to find Maximum and Minimum value from the list [use min_max algorithm] How to use inbuilt stack in python. **[Roll no 12]**

Q.4] A data of marks of 1000 students appeared in JEE exams is to be generated using random number generator in python. The data values must be in between 10-90. Sort the data using any sorting algorithm.

Write a program in python the search an element. Also draw the search tree. **[Roll no 13]**

Q.5] Simulate Quick Sort by different types of data with array of size = 15

- a) Data generated randomly
- b) Data evenly balanced
- c) Data unevenly balanced

Show the array content at every stage of execution. **[Roll no 15]**