**Department of Computer Science and Engineering**

**Course: Design and Analysis of Algorithms**

**Shift-I**

**Assignment-Set-5**

**Max.Marks: 10**

**Last date of submission: 19-Oct-2019**

***(Students can also submit assignment in any other programming language)***

Q.1] Let two string be accepted from keyboard. Write python program to find distance between two words: For example: Distance between “smile” and “smoke” is -5. If distance is negative, correct the words to become similar, if distance is positive display words.

**Roll no 26**

Q.2] Implement “COLLECTIONS”, concept of JAVA Frame work in Python.

**Roll no 27**

Q.3] Read KNN. Implement KNN on set of words. The words are converted into numeric values based on a=1, z=26. Select any word from the set as centroid and rearrange the words as per numeric value to demonstrate KNN chart.

**Roll no 28**

Q.4] Write python program for sum of subset problem. **Roll no 50**

Q.5] Write python program for Vertex Cover Problem. Assume suitable graph. **Roll no 31**

Q.6] Write python program for Clique, perform reduction of ISP to clique. **Roll no 32**

Q.7] Write python program for Heap Sort, Bitonic Sort. **Roll no 33**

Q.8] Write python program for implementing constraints of N-QUEEN problem.

**Roll no 47**

Q.9] Given two arrays in sorted order, write program to find median of two array. Cover all different possibilities. **Roll no 35**

Q.10] Write program for 2 approximation vertex cover problem in python **Roll no 36**

Q.11] Write python program for Hamiltonian cycle and reduce the program to solve Travelling Salesman Problem. **Roll no 37**

Q.12] Write program for non-deterministic sorting **Roll no 48**

Q.13] Write python program for BFS and DFS. Demonstrate contents of intermediate data structures. **Roll no 39**

Q.14] Read closest pair problem and implement in python (use 15 points) **Roll no 40**

Q.15] Read amotorized complexity and its various types. Implement any one type with suitable example. **Roll no 43**