AI : Assignment 2

Anshuman Suri : 2014021

1. The Genetic Algorithm used obtains a score of 317 when run for 2000 iterations, having an initial population size of 2000. At every reproduction level, two parents generate two children. Local search is used as well, which means that at the end of every iteration, only the top 2000 members survive, while the others are killed off.

2. For every run, a random 20 sized clique is generated, with weights between any 2 nodes belonging in the range [1,100].ACO and Memetic algorithms seem to give comparable results, with no clear trend (one being better than the other). Their results are more or less comparable. For example when run for 200 iterations, ACO yields a cost of 567, whereas Memetic gives 411.

A *README*, with instructions for running experiments for both the questions, has been provided along with the code. Implementation for Ant Colony Optimization is inspired by this paper, whereas the combination function for genetic algorithm (and memetic) was thought of by me, based on example functions given in lecture slides.