**ASSIGNMENTS**

**Note**:

1. All the assignments are related to the community detection in social networks. All the input datasets are used in the matrix format.
2. All the task have found the results in the form of given parameters and graph also:
3. Modularity (Q)
4. NMI (Normalized mutual information)
5. ARI (adjusted rand index)
6. F-measure
7. Coverage
8. External density
9. Purity
10. Entropy
11. Average isolability
12. No. of iteration and modularity – **graph**
13. Average NMI similarity and Zout  (no. of links between each node and nodes in other communities) – **graph**
14. All the assignments are done in the Matlab & R.
15. **Datasets Name** - Karate club, Strike, Dolphin society, American football team

**Assignment 1**: GA-net (A Genetic Algorithm for Community Detection in Social Networks) **Springer-2008**

**Assignment 2**: MOGA-net (Multi-objective genetic algorithm for community detection in networks) **ieee-2009**

**Assignment 3**: MAGA-net (Multi-agent genetic algorithm for community detection in complex networks) **elesevier-2016**

**Assignment 4**: FN (Fast algorithm for detecting community structure in networks) **Phys. Rev. E.-2004**

**Assignment 5**: GN (Community structure in social & biological networks) **Pnas-2002**

**Assignment 6**: BOCD (Bi-objective community detection in networks using genetic algorithm) **Springer-2011**

**Assignment 7**: TGA (Community detection in complex networks using collaborative evolutionary algorithms) **Springer-2007**

**Assignment 8**: LGA (Genetic algorithm with local search for community mining in complex networks) **ieee-2010**

**Assignment 9**: GACD (A New Genetic Algorithm for Community Detection) **complex-2009**

**Assignment 10:** GAOCD (A novel genetic algorithm for overlapping community detection) **Springer- 2011**

**Assignment 11: (**Genetic Algorithms Approach to Community Detection) **ACTA-2009**

**Assignment 12: (**Genetic algorithms for community detection in social networks) **IEEE-2012**

**Assignment 13: (**GA with a New Multi-Parent Crossover for Solving IEEE-CEC2011 Competition Problems**) IEEE-2011**

**Assignment 14:** CONGA (An algorithm to find overlapping community structure in networks) **PKDD-2007-Springer**

**Assignment 15:** GALS (Genetic Algorithm with a Local Search Strategy for Discovering

Communities in Complex Networks) **IJCIS-2012(Taylor & Francis)**

**Assignment 16:** CPM (Uncovering the overlapping community structure of complex networks in nature and society) **Nature-2005**

**Assignment 17:** ABL (Link communities reveal multi-scale complexity in networks) **Nature-2010**

**Assignment 18:** GA-Net+ (Overlapped Community Detection in Complex Networks)

**ACM-2009**