

**K. K. WAGH INSTITUTE OF ENGINEERING EDUCATION & RESEARCH, NASHIK.**

**DEPARTMENT OF AI and DS**

**Academic Year:** 2023 – 2024 **Semester:** II **Class:** BE

**Subject: Computer Laboratory III**

**Practical (with no. of hours): 2 Hrs / Week**

**Term Work Marks: 50 Practical Marks: 25**

**Assignment List**

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| **Sr. No.** | **Assignment Name** |
| **Group A** | |
|  | Design a distributed application using RPC for remote computation where client submits an integer value to the server and server calculates factorial and returns the result to the client program. |
|  | Design a distributed application using RMI for remote computation where client submits two strings to the server and server returns the concatenation of the given strings. |
|  | Implement Union, Intersection, Complement and Difference operations on fuzzy sets. Also create fuzzy relations by Cartesian product of any two fuzzy sets and perform max-min composition on any two fuzzy relations. |
|  | Write code to simulate requests coming from clients and distribute them among the servers using the load balancing algorithms. |
|  | Optimization of genetic algorithm parameter in hybrid genetic algorithm-neural network  modeling: Application to spray drying of coconut milk. |
|  | Implementation of Clonal selection algorithm using Python |
| **Group B** | |
|  | To apply the artificial immune pattern recognition to perform a task of structure damage  Classification |
|  | Implement DEAP (Distributed Evolutionary Algorithms) using Python. |
|  | Design and develop a distributed Hotel booking application using Java RMI. A distributed hotel booking system consists of the hotel server and the client machines. The server manages hotel rooms booking information. A customer can invoke the following operations at his machine i) Book the room for the specific guest ii) Cancel the booking of a guest. |
|  | Implement Ant colony optimization by solving the Traveling salesman problem using python  Problem statement- A salesman needs to visit a set of cities exactly once and return to the original city. The task is to find the shortest possible route that the salesman can take to visit all the cities and return to the starting city. |

**Course teacher Module Coordinator Program Coordinator Head,**

**Dept. of AI and DS**