

ABSTRACT

The implementation of genetic algorithms for lecture scheduling systems is carried out by many researchers because it is able to produce scheduling without conflict. The genetic algorithm has four parameters, namely crossover probability (pc), mutation probability (pm), population size (ps), and number of generations. Determination of parameter values is important because it determines the results of finding solutions so that they can be obtained quickly and produce clashes of 0. This study aims to test three parameters with values namely ps (30; 50; 100), pc (0.6; 0.7; 0.8; 0.9) and pm (0.001;0.01;0.1;0.2). The test is carried out on the lecture schedule at the Undergraduate Program of the School of Electrical Engineering, Telkom University, which consists of four Study Programs, namely Engineering Physics, Computer Engineering, Electrical Engineering, and Telecommunication Engineering. The reliability of the system in the Physics Engineering schedule test is 99.67%, Computer Engineering is 98.125%, Electrical Engineering is 83.98%, and Telecommunication Engineering is 73.82%. The parameters that produce the solution with the highest fitness value in all lecture schedules are population size = 30, crossover probability = 0.6, and mutation probability = 0.01.

Keywords – Genetic Algorithm, Crossover Probability, Mutation Probability, Population Size, Fitness Value