عنوان مقاله:

MATHEMATICAL MODELING AND PERFORMANCE OPTIMIZATION FOR THE DIGESTING SYSTEM OF A PAPER PLANT

نویسنده:

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خلاصه مقاله:

This paper deals with the mathematical modeling and performance optimization for the Digesting system of a Paper Plant using Genetic Algorithm. The Digesting system of a Paper Plant has four main subsystems, arranged in series and parallel. Considering exponential distribution for the probable failures and repairs, the mathematical formulation of the problem is done using probabilistic approach and differential equations are developed based on Markov birth-death process. Then, these equations are solved using normalizing conditions to determine the steady state availability of the Digesting system. The performance of each subsystem of the Digesting system in a Paper Plant has also been optimized using Genetic Algorithm. Therefore, the findings of the present paper will be highly useful to the plant management for the timely execution of proper maintenance decisions and hence to enhance the system performance.

كلمات کلیدی:
Performance Optimization, Digesting System, Genetic Algorithm