SUMMARY

In the conference ICCAI 2020, one research paper entitled "Availability and Optimization of continuous manufacturing system using Markov modelling and Genetic Algorithm" was published as a book chapter in ESCI/Scopus indexed Book Series, Lecture Notes in Networks and Systems (LNSS), Springer authored by Dr. Amit Jain, Assistant Prof. Department of CSE, GNDEC with three of his colleagues.

The paper presented a new mathematical model based on Markov death birth process of pulp manufacturing system is presented for improving the availability of this process. Here, the system passes through a series of preventive as well as corrective maintenances on its different transitions to pending-to-failed and failed states correspondingly. The probability recommendations at all stages of this system have numerous differential equations; those have to be solved by applying Laplace Transformations to compute state probabilities. Genetic algorithms have been developed to optimize the availability with varying input variables. The analysis boosted researcher's energy for the identification of key factors and there exists good scope to improvement in the system availability by controlling the contributing factors.

Examinations have been conducted by the proposed model on different common cases. Because Reliability engineering emerges as a powerful concept in analysing the capabilities of the process industry.Examination results showed that, contrasted and existing plans, the proposed conspire is hearty todifferent assaults while having high intangibility. Additionally, the proposed model has performed superior tomany existing plans.

The research papers include the implementation of advanced concepts offered in the subjects like Genetic Algorithm, Soft Computing, and Machine Learning etc. The students study these subjects in the courses of B.Tech. And M.Tech. The publishing of papers in these fields help the teachers to update their knowledge as per the advancement in the technology. This will also help us to guide the students effectively in their project or thesis.

Dr.Amit Jain
Assistant Professor
Department of CSE