



Editorial:

It offers the editorial team of the Mapana Journal of Sciences great pleasure to introduce to you the new edition. I am delighted to see the support and encouragement that this multidisciplinary UGC care listed journal is receiving from peers and significant resource experts from the fields of physical sciences, chemical sciences, mathematics, biological sciences, and computer sciences. All the authors who have contributed to the current edition have my heartfelt gratitude and respect. We have made an effort to publish six articles in this issue that are relevant to the various disciplines of chemistry, physics, mathematics and computer sciences.

The research article written by Sandipan Biswas and Shivnath Ghosh examines the polarity activity exploitation of medications for COVID-19 therapy using Valence Aware wordbook and SentimentReasoning (VADER) sentiment analysis on twitter. In this article authors have discussed the application of similar strategy in various fields. Article also gives brief idea about various stages involved in sentiment analysis. Input of tweets by various parties, tweets retrieval, processing of the tweets, detection of sentiments, classification techniques and their evaluation are some of the important steps involved in the study. The article gave information about algorithm, flowchart of the sentiment analysis model. This kind of studies may help in understanding and analyzing the problem in the better way.

Rajamohan YL and Cyril A employed hydrothermal procedure for the synthesis of BaTiO_3 perovskite material. The findings show that perovskite-based BaTiO_3 coatings showed a noble shift in the corrosion potential of AZ31 alloys in NaCl media. Silicone resins were critical in developing homogenous BaTiO_3 perovskite material coatings on AZ31 alloy.

The review study on the use of Boltzmann systems in recommendation systems by Dheeraj Kumar Sahni and Dhiraj Khurana contributed to study the improvement of accuracy for huge data sets. As we know, recommendation systems assist e-commerce businesses in attracting new customers while also assisting customers in choosing the best product for their needs. The accuracy

and the system's cold start issue are constant challenges for recommendation systems, which offer users the right environment with filters to establish the desired choices or possibilities. Therefore, combining the Boltzmann machine approach with the recommendation system helped increase the system's accuracy and provided a user-friendly environment. The authors of this review study covered Boltzmann machines, their types, and recommendation systems. In this review article authors discussed about Boltzmann machine, their types, recommendation system and their hybrid approach, and also discussed about studies which successfully established and used this hybrid approach of Recommendation system with Boltzmann machine.

Josna James introduced a new vertex covering to Intuitionistic Fuzzy graph, named it as Intuitionistic Fuzzy Path Induced Vertex Covering (IFPVC). An algorithm is proposed to determine the IFPVC set and IFPV covering number for IFG. In real life problems graph theory is one of best approaches because of the uncertainty and imprecision in such circumstances, Intuitionistic Fuzzy Graphs has a distinct advantage over graph theory and fuzzy graph theory. This study will help as a disaster management tool that helps to assess the feasibility of the suggested coverage set.

Saralaya et al. reported a novel and economically viable method for the synthesis of 2-chloro-3-[trans-4-(4-chlorophenyl)cyclohexyl]-1,4-naphthoquinone, an important intermediate for the synthesis of atovaquone, a notable anti-malarial agent. In this article, the synthesis strategy has been optimized, and a product of high quality and yield has been produced. In order to reuse the reagents that are used at different stages of the reaction, they also tried to synthesize the required molecule on a commercial scale in a manner that was both inexpensive and environmentally safe.

The realization of passive resistor-free lossy and lossless capacitance multipliers using two voltage differencing transconductance amplifiers (VDTAs) and a single grounded capacitor has been proposed by Tapas Kumar Paul, Suvajit Roy and Radha Raman Paul using PSPICE simulation. These devices, which do not require component matching constraints, are expected to be feasible options for applications like parasitic cancellation and quadrature sinusoidal oscillator circuits. As the simulation results go well with ideal

theoretical calculations, the effects of non-idealities of VDTAs on the circuits have also been studied to open a broad scope towards making these simulated circuits real.

We feel immense pleasure to present these articles, which are relevant in their respective fields and can further lead the way to new research objectives. We invite our readers to have a fascinating experience of knowledge accumulation and conceptual novelty.

Manoj Balachandran
Section Editor