



Editorial

It is indeed a great pleasure and honour for me to present the current issue of Mapana Journal of Sciences. Mapana is a multi-disciplinary UGC care-listed journal dedicated to publishing innovative research and review articles in the discipline of science. Mapana is a platform for publishing note-worthy research articles in physical sciences, chemical sciences, mathematics, computer science and life sciences.

The present issue covers six innovative articles pertaining to chemical science, mathematics and computer science which discuss the novelty and advancements of the respective field. We appreciate and acknowledge all the authors for their valuable contributions to the Mapana Journal of Sciences.

Urbanization and industrial enterprise have a major role in heavy metal discharge to the environment and water bodies. The most precarious heavy metals which are found to impinge water bodies are chromium, mercury, lead, cadmium, iron etc. Most of the reported techniques for removing heavy metals are not environmentally benign due to the production of secondary pollutants. The most efficacious and economical process for the removal of toxic heavy metals is biosorption. Rajam et al. report the efficacy of *Syzygium Cumini* seed powder as an adsorbent for the removal of heavy metals such as iron and chromium from effluent water generated from steel plants. The study is appreciable because and the authors reported that using natural adsorbents will reduce the secondary pollutant to a large extent.

In the article titled “A systematic study towards the synthesis, isolation, and recrystallization of Atovaquone, an antimalarial Drug:- a sustainable synthetic pathway”, Sanjay et al. reported the synthesis of 2-[trans-4-(4-chlorophenyl) cyclohexyl]-3- hydroxy-1, 4-naphthoquinone 5. The authors presented an optimized systematic reaction and recrystallization condition to isolate 5 in high yield with better purity. Synthesis of 5 was done by the

hydrolysis of 2-[trans-4-(4-chlorophenyl) cyclohexyl]- 3-chloro-1, 4-naphthoquinone 4, which was isolated by the decarboxylative condensation of trans-4-(4- chlorophenyl) cyclohexane carboxylic acid 3 with naphthoquinone moiety. The study extends to provide the polymorphic form I of 5 by the use of solvent combination for the recrystallization.

The article titled "Fixed Point Theorem for B-type Contraction in Partial Metric Spaces" by Bijender Singh et al. provides an important and technically sound contribution to the field of partial metric spaces, which will be useful to researchers for further promotion and enhancement of their theoretical work in the domain. A fixed point theorem has been established for a pair of B-type contraction mappings with a unique common fixed point. Further generalization can be made through B-contraction in the setting of partial metric spaces, metric spaces, metric-

Murugan and Meena reported a detailed study on open support strong and efficient domination number of some standard graphs under addition and multiplication. The authors suggested the extension of similar studies on other domination parameters.

In job shop scheduling, energy conservation is a key factor to be considered for minimizing the lateness and makespan of the shop. Anandapadmanabhan Kumaresan reports a new technic Modified Energy Efficiency Scheduling Algorithm (MEESA), which focuses on analysing effective rate and modified scheduled aware mechanism. Finally, makespan and processing time factors are used to improve the efficiency of the proposed work. With the improvisation modified EE algorithm, the study reports less processing time and makespan values when compared to the other algorithms.

The article "Recommender System: Challenges, Issues & Extensions" by Dheeraj Kumar Sahni presents a link between the challenges, issues and possible extension of literature with their application domain. The recommendation with relative newness in technology gives a big jump to challenges and extensions for the next generation of recommendations. The challenges in an artificial

environment associated with deep learning and neural network technology make it state of the art. The review sparks the gap in the studies given in the last twenty years.

We are delighted to find that the articles are of social relevance and have implemented novel thoughts. Let this journey in pursuit of knowledge be an enriching experience for all the readers

Manoj Balachandran
Editor