Special Issue on Mathematical Computation in Combinatorics and Graph Theory

Graphs are one of the efficient and elegant mathematical models in addressing several issues of the real world. Originating from a famous puzzle "Seven bridges of Konigsberg" in early 1700s, Graph Theory becomes a major component of Mathematics which has wide applications in various branches of science and engineering.

Combinatorics is basically the study of counting techniques which are used to solve many problems in probability theory. It is also an integral part of Discrete Mathematics. Graphs and Combinatorics together act as a bridge in interdisciplinary research areas like Chemical Graph Theory, Algorithmic Graph theory, Computational geometry, Biological networks, and Social networks and so on and so forth. Also it is evident from the exponentially growing research articles in applications of graphs that Graph Theory plays a vital role in interconnection networks to study and analyze the topology of communication networks. A topological index, a special branch of Chemical Graph Theory, is very helpful to Chemists in reducing the cost of their lab experiments. Several complex chemical structures can be studied through their respective mathematical models known as molecular graphs with the help of several interesting Topological indices which are the molecular descriptors in QSAR and QSPR studies in Inorganic Chemistry.

This special issue on "Mathematical Computation in Combinatorics and Graph Theory" is devoted to all researchers across the globe for publishing original and high quality research articles pertaining to all areas of Graph Theory and Combinatorics but not limited to Topological indices, Energy of graphs, domination in graphs, Graph colorings.

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