On the Merrifield-Simmons index of graphs

Suresh Elumalai

Department of Mathematics,

SRM Institute of Science and Technology,

Kattankulathur - 603203, Tamilnadu, India.

e-mail: sureshkako@gmail.com

Abstract

The total number of independent subsets, including the empty set, of a graph, is also termed as the Merrifield-Simmons index (MSI) in mathematical chemistry. In this talk, we discuss on the upper and lower bounds of the Merrifield-Simmons index and their extremal graphs for some class of simple connected graphs.

References

- [1] R.E. Merrifield, H.E. Simmons, The structure of molecular topological spaces, Theor. Chim Acta 55 (1980) 55-75.
- [2] R.E. Merrifield, H.E. Simmons, Topological Methods in Chemistry, Wiley, New York, 1989.
- [3] H. Prodinger and R. F. Tichy, Fibonacci numbers of graphs, The Fibonacci Quarterly, 20(1) (1982) 16-21.
- [4] N. Trinajstić, Chemical Graph Theory, CRC Press, Boca Rator, FL, 1992.
- [5] S. Wagner, H. Wang, Introduction to Chemical Graph Theory, CRC Press, Taylor & Francis (2018).