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BULLETIN OF THE INTERNATIONAL MATHEMATICAL VIRTUAL INSTITUTE
ISSN (p) 2303-4874, ISSN (o) 2303-4955
www.iinvibl.org / JOURNALS / BULLETIN
Bull. Int. Math. Virtual Inst., Vol. 10(2)(2020), 389-402
DOI: 10.7251/BIMVI2002389J

Former
BULLETIN OF THE SOCIETY OF MATHEMATICIANS BANJA LUKA
ISSN 0354-5792 (o), ISSN 1986-521X (p)

ZAGREB INDEX AND COINDEX OF K^{th} GENERALIZED TRANSFORMATION GRAPHS

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ABSTRACT. Transformation graphs plays important role in the field of chemical graph theory. In this paper, we consider the k^{th} generalized transformation graphs G_k^{ab} and their complements and obtain expressions for Zagreb indices and coindices.

1. Introduction

A graph is a collection of points together with a number of lines connecting a subset of them. The points and lines of a graph are called vertices and edges of the graph, respectively. The vertex and edge sets of a graph G are denoted by $V(G)$ and $E(G)$, or briefly by V and E , respectively. When we regard molecules as specific chemical structures and replace atoms and bonds with vertices and edges, respectively, the graph obtained is called a molecular graph. That is, a molecular graph is a simple graph in such a way that its vertices match the atoms and its edges with the bonds. Remember that hydrogen atoms are often omitted and the remainder of the graph is sometimes called as the carbon graph of the corresponding molecule. A branch of mathematical chemistry that has a major effect on the development of molecular chemistry and QSAR / QSPR studies is the chemical graph theory which deals with the above-mentioned relationships between molecules and corresponding graphs.

Throughout this paper, we considered simple graph G with n vertices and m edges, denoted as (n, m) . Let $V(G)$ and $E(G)$ be its vertex and edge sets, respectively. If u and v are adjacent vertices of G , then the edge joining them will

1991 *Mathematics Subject Classification.* 92E10; 05C07; 05C90.

Key words and phrases. Transformation graphs, Zagreb indices, k^{th} generalized transformation graphs.

Supported by Directorate of Minorities, Karnataka, India.

PRINCIPAL

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