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UPPER BOUNDS FOR SYMMETRIC DIVISION DEG INDEX OF GRAPHS

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Abstract: The symmetric division deg index is one of the 148 discrete Adriatic indices introduced several years ago. This index has already been proved a valuable index in the QSAR(Quantitative Structure Activity Relationship) and QSPR(Quantitative Structure Property Relationship) studies. In this paper, we present some new upper bounds for symmetric division deg index of a given Graph.

Keywords and Phrases: Degree, Topological descriptor, Symmetric Division Deg Index.

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1. Introduction

Molecular descriptors, results of functions mapping molecule's chemical information into a number [5], have found applications in modeling many physicochemical properties in QSAR and QSPR studies [1]. Among the 148 discrete Adriatic indices studied in [6], whose predictive properties were evaluated against the benchmark datasets of the International Academy of Mathematical Chemistry [3], 20 indices were selected as significant predictors of physicochemical properties. One of these useful discrete adriatic indices is the symmetric division deg index which is defined as $SDD(G) = \sum_{xy \in E(G)} \left(\frac{d_x}{d_y} + \frac{d_y}{d_x)} \right)$, where d_x and d_y are the degrees of