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SOME RESULTS ON INJECTIVE CHROMATICS TOPOLOGICAL INDICES OF SOME GRAPHS

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Abstract: Graph coloring is an assignment of colors, labels or weights to the elements of graphs subject to certain conditions. Coloring the vertices of a graph G such that adjacent vertices possessing different colors is the notion of proper coloring. A proper coloring $\mathcal{C}$ of a graph G is called an injective coloring of G if any two vertices of G having the same neighbouring vertex have different colors in $\mathcal{C}$. As a coloring analogue to Zagreb indices and irregularity indices in the literature, chromatic Zagreb and irregularity indices have been introduced very recently. In this paper, we introduce the notion of injective chromatic Zagreb indices and injective chromatic irregularity indices and determine these indices for some standard classes of graphs.

Keywords and Phrases: Chromatic Zagreb indices, irregularity indices, injective Chromatic Zagreb indices, injective irregularity indices.

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1. Introduction

A *topological index* is a real number connected with a molecular graph which remains invariant under graph isomorphisms. In chemical graph theory, topological indices as molecular descriptors, are mainly divided into degree based and distance based indices and among the degree based topological indices, Zagreb indices are the earliest and the mostly used. The chromatic version of these Zagreb indices