ECCENTRIC TOPOLOGICAL INDICES BASED ON EDGES OF ANNIHILATING-IDEAL GRAPHS

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Abstract: In the present investigation, we compute the value of eccentric topological indices on the basis of edges of annihilating - ideal graphs namely, the first zagreb eccentricity index, third zagreb eccentricity index, geometric - arithmetic eccentricity index, atom-bond connectivity eccentricity index and the fourth type of eccentric harmonic index. In addition, we propose an open question in this paper.

Keywords and Phrases: Annihilating - ideal graph, eccentricity, topological index.

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1. Introduction and Preliminaries

All over this R represents a commutative ring with identity $1 \neq 0$. An ideal I is known as an annihilating-ideal of R if $IJ = (0)$ for some ideal $J \neq (0)$ of R and the collection of all annihilating-ideals of R is defined by $\mathbb{A}(R)$. M. Behboodi et al. [3] initiated and examined the idea of the annihilating-ideal graph of R defined by $\mathbb{AG}(R)$ whose vertices are $\mathbb{A}(R)^* = \mathbb{A}(R)\backslash\{(0)\}$ and two vertices $I \neq J$ are adjacent if and only if $IJ = (0)$. The relationship among the ring theoretic