

RESTRICTED MINUS DOMINATION NUMBER OF A GRAPH

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Abstract: A restricted minus dominating function on a graph $G = (V, E)$ is a function $f : V \rightarrow \{-1, 0, 1\}$ such that $f(N[v]) \geq 0$ for every vertex $v \in V$ and a vertex assigned 0 is adjacent to at least one vertex assigned 1. The restricted minus domination number $\gamma_r^-(G) = \min\{w(f) : f \text{ is restricted minus dominating function}\}$. In this paper, we initiate the study of $\gamma_r^-(G)$ and its relationship with sign and minus domination are investigated. Many of the known bounds of $\gamma_r^-(G)$ are immediate consequence of our results.

Keywords and Phrases: Graph, domination number, minus domination number, restricted minus domination.

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1. Introduction

All graphs considered in this paper are finite, simple, and undirected. For a general reference on graph theory, the reader is directed to [8]. Let G be a graph with vertex set $V(G)$ and edge set $E(G)$. Let $n = |V|$ and $m = |E|$ denote the number of vertices and edges of a graph G , respectively. For any vertex v