

THE DOM-CHROMATIC INDEX OF A GRAPH

B. CHALUVARAJU¹, C. NANDEESH KUMAR² AND C. APPAJIGOWDA³

¹ Department of Studies and Research in Mathematics,
B. H. Road, Tumkur University, Tumkur -572103, India

^{2,3} Department of Mathematics, Bangalore University,
Central College Campus, Bangalore -560 001, India

Abstract

An edge set $F \subseteq E(G)$ is a dom-edge coloring set of a graph $G = (V, E)$, if F satisfy the conditions such as every edge not in F is adjacent to some edge in F and every edge color class E_i contains atleast one edge $e_i \in F$, $1 \leq i \leq m$. The dom-chromatic index $\chi_{ed}(G)$ is the minimum cardinality taken overall dom-edge coloring sets of a graph G . In this paper, we initiate a study on $\chi_{ed}(G)$ and its exact values for some standard graphs have been established. Also its relationship with other graph theoretic parameters are investigated.

Key Words : *Graph, Edge domination, Chromatic index, Dom-chromatic index.*

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