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SUM OF CHROMATIC NUMBER AND (G, D)-NUMBER OF A GRAPH

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Abstract

In [5], we introduced the new concept (G, D)-set of Graphs. Let $G = (V, E)$ be any graph. A (G, D)-set of a graph G is a subset S of vertices of G which is both a dominating and geodominating (or geodetic) set of G. The minimum cardinality of all (G, D)-sets of G is called the (G, D)-number of G and is denoted by $\gamma_{_G}(G)$. The minimum number of colors required to color all the vertices of a graph G such that adjacent vertices do not receive the same color is its chromatic number $\chi(G)$. In this paper, we prove that for a non complete connected graph, $\gamma_{_G} + \chi \leq 2p - 2$. The corresponding extremal graphs with $\gamma_{_G} + \chi$ up to $2p - 4$ are characterized.

Key Words : (G, D)-*number, Chromatic number.*