Abstract

The concept of dominating functions are introduced by Hedetniemi [4] and this concept has been studied extensively in recent years. Unidominating function and unidomination number are new concepts introduced by Anantha Lakshmi [1]. She has studied these concepts for some standard graphs.

In Discrete Mathematics, Product of graphs occurs naturally as tools in combinatorial constructions. They give rise to important classes of graphs and deep structural problems. Frucht and Harary [3] introduced a new product on two graphs $G_1$ and $G_2$, called corona product denoted by

In this paper the concept of total unidominating function and minimal total unidominating function for corona product graph
W

1, n

K

1, m

is discussed and determined the total unidomination number and upper total unidomination number for this graph. Also the number of total unidominating functions of minimum weight is found.

References

1. Anantha Lakshmi, V. A Study on Unidominating and Total Unidominating functions of Some Standard Graphs, Ph.D. thesis, Sri Padmavati Mahila Visvavidyalayam, Tirupati, Andhra Pradesh, India, (2015).
2. Cockayne, E.J Mynhardt, C.M Yu, B Total dominating functions in trees: Minimality and Convexity, Journal of Graph Theory, 19(1995), 83-95.
3. Frucht, R. Harary, F, On the corona of Two Graphs. Aequationes Mathematicae, 1970, Volume 4, Issue 3, pp. 322-325.
4. Hedetniemi S. M, Hedetniemi, S.T. and Wimer, T. V. - Linear time resource allocation algorithms for trees. Technical report URI – 014, Department of Mathematics, Clemson University, 1987.
5. T.W. Haynes, T. Hedetniemi, and P.J. Slater, Fundamentals of Domination in Graphs, Marcel Dekker, New York, 1998.
6. T.W. Haynes, S.T. Hedetniemi, and P.J. Slater, Domination in Graphs: Advanced Topics, Marcel Dekker, New York, 1998.

Index Terms

Computer Science  Applied Mathematics

Keywords

Total unidominating function, total unidomination number, minimal total unidominating function, upper total unidomination number