

DOMINATING SETS OF UNITARY DIVISOR CAYLEY GRAPHS

G. MIRONA & B. MAHESWAR

Department of Applied Mathematics, Sri Padmavati Womens University, Tirupati, Andhra Pradesh, India

ABSTRACT

Let $n \geq 1$ be an integer and S be the set of unitary divisors of n . Then the set $S^* = \{s, n-s \mid s \in S, n \neq s\}$ is a symmetric subset of the group (\mathbb{Z}_n, \oplus) , the additive abelian group of integers modulo n . The Cayley graph of (\mathbb{Z}_n, \oplus) , associated with the above symmetric subset S^* is called the Unitary Divisor Cayley graph and it is denoted by $G(\mathbb{Z}_n, \oplus, S^*)$. That is, $G(\mathbb{Z}_n, \oplus, S^*)$ is the graph whose vertex set is $V = \{0, 1, 2, \dots, n-1\}$ and the edge set is $E = \{(x, y) \mid x-y \text{ or } y-x \text{ is in } S^*\}$. Let $G(V, E)$ be a graph. A subset D of V is said to be a dominating set of G if every vertex in $V \setminus D$ is adjacent to a vertex in D . A dominating set with minimum cardinality is called a minimum dominating set and its cardinality is called the domination number of G and is denoted by $\gamma(G)$.

KEYWORDS: Unitary Divisor Cayley Graph, Dominating Set, Domination Number