

$L(h, k)$ –Labeling of Circulant Graphs

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An $L(h, k)$ –labeling of a graph G is an assignment of non-negative integers to the vertices such that if two vertices u and v are adjacent then they receive labels that differ by at least h , and when u and v are not adjacent but there is a two-hop path between them, then they receive labels that differ by at least k . The span λ of such a labeling is the difference between the largest and the smallest vertex labels assigned. Let $\lambda_h^k(G)$ denote the least λ such that G admits an $L(h, k)$ –labeling using labels from $\{0, 1, \dots, \lambda\}$. A Cayley graph of group is called circulant graph of order n , if the group is isomorphic to \mathbb{Z}_n . In this paper initially we investigate the $L(h, k)$ –labeling for circulant graphs with “large” connection sets, and then we extend our observation and find the span of $L(h, k)$ –labeling for *any* circulants of order n .

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