

Full Friendly Index Sets of Cartesian Product of Two Cycles

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A friendly labeling of a graph $G = (V, E)$ is an assignment f of integers, either 0 or 1, to the vertices of G with a restriction that the difference in the amount of vertices assigned between 0's and 1's is at most one. Under such a labeling, the edge labeling f^* is induced such that each edge xy of G is assigned to either 0 or 1 by $f^*(xy) \equiv f(x) + f(y) \pmod{2}$. Also, a subtraction of the amount of edges assigned to 0's from that assigned to 1's is called a friendly index of G under a friendly labeling. If an assignment to the vertices with an additional restriction that a friendly index is equal to -1 , 0 or 1, the labeling is not only called friendly labeling but also cordial labeling. Moreover, a full friendly index set of G is a set of all possibilities of friendly indices induced by assigning the integers to the vertices of G . In this talk, we completely determine the full friendly index sets of different kinds of Cartesian product of two cycles.