

DISTANCE GRAPHS OF CYCLE AND LOLLIPOP GRAPH

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Abstract: Let $C_n, L_{m,n}$ denote Cycle graph on n vertices, Lollipop graph on $m+n$ vertices. In this article, we examine the distance graphs $G(C_n, D), G(L_{m,n}, D)$, where D is the difference set. We characterize the distance set D for the above graphs is one of wheel, regular, cycle, acyclic, bipartite, path.

Keywords and Phrases: Distance graph, Complete graph, Cycle, Wheel graph, Complete bipartite graph.

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1. Introduction and Preliminaries

In this article, we discussed about simple graphs only. The stretch of shortest $u - v$ path in H is the interspace linking the two points u, v in H , indicated by $d_H(u, v)$. We consider $d_H(x, y) = 0$ if and only if $x = y$ and $d_H(x, y) = \infty$ if and only if x and y are in distinct components of H . We used the standard notations and terminologies of graph theory following [22]. Distance graphs of a metric space is an interesting topic in graph theory Even though this idea has been identified for a very extensive time, it is only in current decades that this area has established great concentration as a subject matter of its own.

To find out the least number of colors requisite to color all the points on the Euclidean plane such that no two adjacent vertices obtain the same color is a