Automorphism Groups of Some Graphs Related to Cycle Graph

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ABSTRACT

This paper deals with the automorphism groups of some graphs related to cycle C_n. In this paper, we derived the automorphism groups of some graphs related to cycle graph. Some cycle related graphs like the graph $G = C(n, m)$ obtained from two cycles C_n and C_m by joining their single vertices with an edge, the graph $S(C_{m1}, C_{m2},...,C_{mn})$, the graph obtained from cycle C_n by attaching $m_1, m_2,...,m_n$ pendant edges to vertices $v_1, v_2,...,v_n$, respectively of cycle C_n, the graph $C_k\left(n_1^{l_1}, n_2^{l_2}, \cdots, n_k^{l_k}\right)$, the graph obtained from the duplication of every edge of cycle by a new vertex, the graph obtained from the one point union of n−cycles of different lengths and the graph $C_k (C_{m1}, C_{m2},...,C_{mk})$ have been elaborated successfully. The different theorems on automorphism groups have been proposed in some context of graphs related to cycle graph and obtained results have been justified with the help of examples.

Keywords: Automorphism, Pendant edges, Group, Cycle.