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$\mathcal{S}$-INDEX OF CERTAIN LINE GRAPH OF SUBDIVISION GRAPHS

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Abstract: There are numerous applications of graph theory in the field of structural chemistry. In this paper, we compute the Sanskruti index $\mathcal{S}(G)$ of the Line graph of Subdivision Graph of cyclic hexagonal-square chain and nanocones $CNC_k[n]$ respectively.

Keywords and Phrases: Topological indices, Sanskruti index, Derived graph, Line graph.

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1. Introduction and Preliminaries

A graph $G = (V, E)$ be a finite, undirected graph, without loops or multiple edges having $p = |V|$ and $q = |E|$ specifies the total number of vertices and edges of a graph G, respectively. Any undefined term in this paper may be found in Harary [11]. Further, Let G be a simple graph, with vertex set $V(G)$ and edge set $E(G)$. For $u \in V(G)$, N_u denotes the set of its neighbors in G, the degree of vertex u is $d_u = |N_u|$ and $S_u = \sum_{v \in N_u} d_v$. The subdivision graph $S(G)$ is the graph obtained