Non-Neighbor Topological Indices of Generalized Prism Network

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***Abstract*:** Topological indices are designed for the transformation of a molecular graph into a number which characterize the topology of that graph. Networks are complicated graph structures which plays an important role in the field of engineering and physics. Topological indices can be used to understand the characteristics of different networks. Non Neighbor Topological Indices based on non-neighbors of the vertices of a graph is an emerging research concept in Chemical Graph Theory. In this research work, the Non-Neighbor Topological Indices of generalized prism network is computed.

Keywords: Non-neighbors, non-neighbor topological indices, generalized prism network.

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I.Introduction

Chemical graph theory has a central role in the implementation of mathematical concepts, especially graph theory to Chemistry [1,7]. Graph theory has vast applications in diverse fields of Science and Engineering [5]. Topological indices are graph invariants used for the transfiguration of a structure or graph into a unique number which characterize the topology of that structure.

Topological indices are used in prediction of bioactivity of the underlined compounds. Topological indices of chemical graphs obtained by applying graph theoretical results give good correlation between the properties of these chemical compounds. Networks are complicated graphs obtained by implementing several operations on graphs.

Chemical structure can be represented by a graph whose vertices represent atoms and edges correspond to the chemical bonds. A graph $G(V,E)$ with vertex set $V(G)$ and edge set $E(G)$ is connected if there is a path between any pair of vertices in G. The number of vertices of G adjacent to a given vertex v is the "degree" of this vertex and is denoted by $d(v)$.