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SOMBOR INDEX OF EDGE CORONA PRODUCT OF SOME CLASSES OF GRAPHS

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Abstract: The operations of graphs spread their wings in designing complex network structures in various engineering domains. Graph indices, popularly termed topological indices are computed on the basis of distance or degree. The boundless part of graph indices has its foot print in network centrality and the robustness of complex networks. The goal of this paper is to provide a complete expression for the Sombor index of edge corona product of few classes of graphs.

Keywords and Phrases: Paths, Cycles, Edge corona product, Sombor Index.

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1. Introduction

Graphs considered in this paper are simple graphs. Graphs give a nice structural representations of many physical phenomenon. Very recently, graphs are used to represent the social networks such as Facebook and e-mail networks. The degree of the vertex v_i is denoted by $d(v_i)$ represents the number of edges incident on it. The lower and upper bounds on the Sombor index of graphs in [2] motivate us to work on Sombor index of graph products.

Topological indices characterize the topology of a graph. It is a numerical parameter and is usually graph invariant. Wiener index, Hyper-Wiener index, Hosoya