

WIENER INDEX OF POWER 3 MEAN GRAPHS

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Abstract: This paper has derived a Special Type of W. I. Of graphs. The W. I. of, Cycle graph, Diamond graph, and Flag graph is investigated in this article.

Keywords and Phrases: Cycle graph, Diamond graph, Flag graph.

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1. Introduction

Harry Wiener introduced the Concept of Wiener Index. Later 1947 Chemist Harold Wiener introduced the W. I. of a graph $G = (V, E)$ represented by $W(G)$. All graphs have the study are finite and simple in this Paper.

Definition 1.1. The W. I. of a graph G is denoted by $W(G) = \sum_{u,v \in V(G)} d_G(u, v)$.

Remark 1.2. Every $V(G)$ and $E(G)$ clearly be labelled with the number one.

Remark 1.3. Every degree in a graph must be smaller than 3.

2. Primary Results

Theorem 2.1. Let $G = C_n$. The the W. I. of cycle C_n is

$$W(C_n) = \left\{ \begin{array}{l} (-1 + 2n) + 4n + 6n + 6 + 8n + 16 + \dots + 4n \text{ if } n \text{ is odd} \\ (-1 + 2n) \times 1 + (4n) \times 3 + (4 + 2n) \times 4 + (2n - 2) \times 5 \\ \quad + \dots + 1 \times (n + 1) \text{ if } n \text{ is even} \end{array} \right\}$$