

# Acyclic Coloring of Central Graph of Gear Graph Families

R.Arundhadhi<sup>1</sup>, K.Thirusangu<sup>2</sup>

<sup>1</sup>Dept. of Mathematics, D.G.Vaishnav College, Chennai.

<sup>2</sup>Dept. of Mathematics, S.I.V.E.T College, Gowriwakkam, Chennai

E-mail: [arundhadhinatarajan@gmail.com](mailto:arundhadhinatarajan@gmail.com)

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## Abstract

An acyclic coloring of a graph  $G$  is a proper vertex coloring ( no two adjacent vertices of  $G$  have the same color) such that the induced sub graph of any two color classes is acyclic. The minimum number of colors required for acyclic coloring of a graph  $G$  is called as its acyclic chromatic number and is denoted by  $a(G)$ . In this paper, we present the structure and coloring algorithm of central graph of Gear Graph  $G_n$  and we obtain the exact value of its acyclic chromatic number.

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