

**INTEGER CORDIAL LABELING OF SOME STAR AND BISTAR  
RELATED GRAPHS**

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**Abstract:** An integer cordial labeling of a graph  $G^*(p, q)$  is an injective map  $g : V \rightarrow \left[ \frac{-p}{2}, \dots, \frac{p}{2} \right]^*$  or  $\left[ -\left\lfloor \frac{p}{2} \right\rfloor, \dots, \left\lfloor \frac{p}{2} \right\rfloor \right]$  as  $p$  is even or odd, which induces an edge labeling  $g : E \rightarrow \{0, 1\}$  defined by

$$g(uv) = \begin{cases} 1, & g(u) + g(v) \geq 0 \\ 0, & \text{otherwise} \end{cases}$$

such that the number of edges labeled 1 and the number of edges labeled 0 differ by at most 1. If a graph has integer cordial labeling (I.C.L.), then it is called integer cordial graph (I.C.G.). In this paper, we investigate the existence of integer cordial Labeling of Star and Bistar related graphs.

**Keywords and Phrases:** Integer Cordial Labeling, Integer Cordial Graph, Shadow graph, Splitting of a Graph, Degree Splitting of a Graph.

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### 1. Introduction

Now in these days, Graph Theory and Graph Labeling act as essential tool in Data Science and Computer Engineering. It is very useful to assign networks communication, flow of computation and used to represent data organization. Here, we have investigated some important results on Integer cordial labeling which can