

ON METRIC DIMENSION OF BOOLEAN GRAPH $BG_1(G)$

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Abstract: Let G be a simple graph with vertex set V and edge set E . $B_{G,NINC,\overline{K_q}}$ (G), known as boolean graph of G -first kind, simply denoted by $BG_1(G)$ is defined as the graph with vertex set $V \cup E$ and two vertices are adjacent if and only if they correspond to adjacent vertices in G or to a vertex and an edge in G such that the edge is not incident with the vertex. In this paper we give a bound for metric dimension of $BG_1(G)$ and also find expression for metric dimension of boolean graphs of Complete graphs and Star graphs. Finally, an algorithm for finding the metric dimension of $BG_1(G)$ is established.

Keywords and Phrases: Boolean graph $BG_1(G)$, metric dimension, resolving set.

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1. Introduction

T. N. Janakiraman, M. Bhanumathi, S. Muthammai have contributed much in the study of boolean graph operation and boolean graph [6]. Considering the numerous adjacency relations 32 different kinds of graphs can be generated from a single graph. Globally, like Facebook and Whatsapp, many other networks are also flourishing. Hence, the study of such graphs are trending. The concept of location set and location number have contemporary significance as these concepts have applications in GPS, mobile phone technology and many other networks. The concepts of location set and location number introduced by P J Slater are