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OUTER CONNECTED EQUITABLE DOMINATING SETS IN A GRAPH

P. Nataraj, A. Wilson Baskar* and V. Swaminathan*

The Madura College, Madurai, Tamil Nadu - 625011, INDIA

E-mail :natsssac7@yahoo.com

*Ramanujan Research Center in Mathematics,
Saraswathi Narayanan College,
Madurai, Tamil Nadu - 625022, INDIA

E-mail : arwilvic@yahoo.com, swaminathansulanesri@gmail.com

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Abstract: Let G be a simple graph with vertex set V and edge set E. An equitable dominating set D of $V(G)$ is called an outer connected equitable dominating set of G if $< V - D >$ is connected. A study of outer connected equitable dominating sets in a graph is initiated.

Keywords and Phrases: Equitable domination, outer connected domination.

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1. Introduction

Graph theoretical terminologies not given here can be founded in [2, 3, 9]. Let $G = (V, E)$ be a simple graph. The neighbourhood of a vertex v, denoted by $N(v)$, is the set of all vertices adjacent to v in G. If v is a vertex of G then the integer $deg(v) = |N(v)|$ is said to be the degree of v in G. The minimum and maximum degree among all vertices of G are denoted by $\delta(G)$ and $\Delta(G)$, respectively. A vertex of degree one in a graph is called a pendent vertex or an end vertex. A support is the unique neighbour of an end-vertex.

A set $D \subseteq V(G)$ is a dominating set in G if for every vertex $v \in V(G) - D$, there exists a vertex $u \in D$ such that $uv \in E(G)$.The domination number of a graph G, denoted $\gamma(G)$, is the cardinality of a minimum dominating set of G.