Abstract

In this paper the concept of connected edge monophonic domination number of a graph is introduced. A set of vertices M of a graph G is a connected edge monophonic domination set (CEMD set) if it is edge monophonic set, a domination set of G and the induced sub graph is connected. The connected edge monophonic domination number (CEMD number) of G, \( \gamma_{mce}(G) \) is the cardinality of a minimum CEMD set. CEMD number of some connected graphs are realized. Connected graphs of order \( n \) with CEMD number \( n \) are characterised. It is shown that for every pair of integers \( m \) and \( n \) such that \( 3 \leq m \leq n \), there exist a connected graph G of order \( n \) with \( \gamma 

\begin{align*}
\gamma_{mce}(G) &= m. \\
\text{Also, for any positive integers } p, q \text{ and } r \text{ there is a connected graph G such that } m(G) &= p, m \\
\gamma(m(G)) &\leq q \text{ and } \gamma
\end{align*}
Connected Edge Monophonic Domination Number of a Graph

\[ m \]

or

(G) $\gamma_m(G)$, Again, for any connected graph $G$, $\gamma_m(G)$ lies between $n/(1+\Delta(G))$ and $n$.

References

4. F. Buckley, and F. Harary. Distance in Graphs. Addison Wesley, Redwood City, CA (1990)

Index Terms

Computer Science

Edge monophonic number, monophonic domination number, edge monophonic domination number, connected edge monophonic domination numbers.