THE BONDAGE NUMBER OF A GRAPH

S. VELAMMAL¹ AND S. ARUMUGAM²

¹ Department of Mathematics,
   Velammal College of Engineering and Technology, Viraganoor,
   Madurai 625 009, India
² Core Group Research Faculty (CGRF),
   National Centre for Advanced Research in Discrete Mathematics (n-Cardmath)
   Kalasalingam University, Anand Nagar, Krishnankoil-626 190, India

Abstract

The bondage number $b(G)$ of a non-empty graph $G$ is the minimum number of edges whose removal from $G$ results in a graph having domination number greater than the domination number of $G$. In this paper we characterize graphs for which $b(G) = p - 1$ and $b(G) = (\gamma - 1) + 1$. We also introduce the concept of uniform bondage number $b_u(G)$ and determine the exact value of $b_u(G)$ for several classes of graphs.

Key Words: Domination number, Bondage number, Uniform bondage number.