

# Signed edge domination numbers of complete tripartite graphs: Part One

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The closed neighborhood  $N_G[e]$  of an edge  $e$  in a graph  $G$  is the set consisting of  $e$  and of all edges having an end-vertex in common with  $e$ . Let  $f$  be a function on  $E(G)$ , the edge set of  $G$ , into the set  $\{-1, 1\}$ . If  $\sum_{x \in N_G[e]} f(x) \geq 1$  for each edge  $e \in E(G)$ , then  $f$  is called a signed edge dominating function of  $G$ . The signed edge domination number of  $G$  is the minimum weight of a signed edge dominating function of  $G$ . In this talk, we present the signed edge domination number of the complete tripartite graph  $K_{m,n,p}$ , where  $1 \leq m \leq n \leq p \leq m+n$ .