

IDENTITY AND NON-IDENTITY GRAPHS ON n -SIGRAPHS

R. RANGARAJAN AND P. SIVA KOTA REDDY

Abstract

Let $n \geq 1$ be an integer. An n -sigraph is a graph $G = (V, E)$ in which each edge is labeled by an n -tuple (a_1, a_2, \dots, a_n) , where a_k belongs to $\{+, -\}$, for each $1 \leq k \leq n$. The identity n -tuple is one in which each $a_k = +$, for $1 \leq k \leq n$, otherwise it is a non-identity n -tuple. In an n -sigraph $G = (V, E)$ an edge with label by identity n -tuple is called an *identity edge*, otherwise it is a *non-identity edge*. The subgraph G_i of an n -sigraph is induced by the identity edges of G , while G_{ni} is induced by its non-identity edges. For graphs F and H without isolated vertices, the n -sign number $s_n(F, H)$ is the minimum order of an n -sigraph $G = (V, E)$ such that $G_{ni} \approx F$ and $G_i \approx H$. In this paper, we obtain some bounds and results for $s_n(F, H)$.