**ABSTRACT**

Let G=(V,E) be a simple, undirected, finite nontrivial graph. A dominating set S is a set dominating set of G if for every set T⊆V-S, there exists a non-empty set R⊆S such that the subgraph is connected. A dominating set S is called a total set dominating set if the following conditions hold: (i) every vertex of V(G) is adjacent to some vertex in S (ii) for every set T⊆V-S there exists a non-empty set R⊆S such that the subgraph is connected. In this paper, we establish that for all n≥3 there exists a k-regular pancyclic graph G with n vertices and γs(G)= γts(G) where both n and k are even and 6≤k≤n-1. And, there exists a k-regular pancyclic graph G with n vertices and γs(G)= γts(G) where n is even and k is odd and 5≤k≤n-1. Also, we establish that, there exists a n-regular (n=3,4) graph G with the property that γs(G)= γts(G).