IMPACT: International Journal of Research in Engineering & Technology (IMPACT: IJRET)
ISSN(E): 2321-8843; ISSN(P): 2347-4599
Vol. 2, Issue 2, Feb 2014, 97-104

STAR-IN-COLORING OF COMPLETE BI-PARTITE GRAPHS, WHEEL GRAPHS AND PRISM GRAPHS

S. SUDHA & V. KANNIGA

Ramanujan Institute for Advanced Study in Mathematics, University of Madras, Tamil Nadu, India

ABSTRACT

A $k-$coloring of a graph $G=(V,E)$ is a mapping $c:V\ (G)\to\{1,2,3,\dots\}$ such that $uv\in E(G)\Rightarrow c(u)\neq c(v)$. In this paper, we have considered a complete bi-partite graph $K_{m,n}$ for all m,n and proved that the star-in-chromatic number of $K_{m,n}$ is either $n+1$ if $m\geq n$ or $m+1$ if $n>m$ respectively. We have also found that the star-in-chromatic number of a wheel graph W_n has the lower bound and upper bound as $4\leq\chi_{si}(W_n)\leq 5$. Further we have considered the prism graph $Y_{n,m}$ and found that the star-in-chromatic number of the prism graph satisfies the relation $5\leq\chi_{si}(Y_{n,m})\leq 6$.

AMS Subject Classification: 05C15, 05C20

KEYWORDS: Complete Bi-Partite Graph, Wheel Graph, Prism Graph, Star-in-Coloring