The Ramsey Numbers for copies some Tree versus Wheels and Complete graph

Hasmawati*, Edy Tri Baskoro and Hilda Assiyatun

Department of Mathematics
Institut Teknologi Bandung (ITB),
Jalan Ganesa 10 Bandung 40132, Indonesia
{ hasmawati,ebaskoro,hilda}@dns.math.itb.ac.id

Abstract. For given graphs G and H, the Ramsey number $R(G,H)$ is the smallest natural number n such that for every graph F of order n: either F contains G or the complement of F contains H. This paper investigates the Ramsey number $R(\cup G, H)$, where G contains tree and H are wheel W_m and complete graph K_m. We show that if n is even and $n \geq 3$, then $R(2S_n, W_4) = 3n$. Furthermore, if $n \geq 3$ and m is odd, $m \leq 2n-1$, then $R(kS_n, W_m) = 3n-2+(k-1)n$, and for arbitrary n and m, then $R(\bigcup_{i=1}^{k} T_{n_i}, K_m) = R(T_{n_k}, K_m) + \sum_{i=1}^{k-1} n_i$.

Keywords : Ramsey numbers, wheels, tree, complete graph

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* Permanent address: Department Matematics FMIPA, Hasanuddin Univercity (UN-HAS), Jalan Perintis Kemerdekaan KM.10 Makassar 90245, Indonesia