Triangle Neighborhood Graphs

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Let G be an undirected, simple, connected graph, and K_3 be a subgraph of G. Let $N_G(K_3)$ be the subgraph of G induced by the set of all vertices of G which are not incident to an edge of K_3 and each is adjacent to at least one vertex of K_3. The graph $N_G(K_3)$ will be called the triangle neighborhood of K_3 in G. The triangle neighborhood version of the problem of Zekov [8] is to characterize the graphs H such that there exists a graph G with the property $N_G(K_3) \cong H$ for each K_3 of G. The class of all graphs with this property will be denoted by $\mathbf{N}_{K_3}$. In this paper , we give some classes of graphs that belong to $\mathbf{N}_{K_3}$.