

Triangular connected quasi claw-free graphs and almost claw-free graphs

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A graph G is triangularly connected if for every pair of edges $e_1, e_2 \in E(G)$, G has a sequence of 3-cycles C_1, C_2, \dots, C_l such that $e_1 \in C_1, e_2 \in C_l$ and $E(C_i) \cap E(C_{i+1}) \neq \emptyset$ for $1 \leq i \leq l - 1$.

Clearly, every connected, locally connected graph is triangularly connected. But not every triangularly connected graph is locally connected. We prove the following.

- (1) Every triangularly connected quasi claw-free graph on at least three vertices is vertex pancyclic.
- (2) Every triangularly connected $K_{1,4}$ -free almost claw-free graph on at least three vertices is fully cycle extendable.